

ITEMS OF INTEREST.

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Thoughts from the Profession.

SURGERY OF THE ANTRUM.

The antrum is only one of the air cells of the skull, and since it is of importance as the largest of these, it is known by the dignified title of the "Antrum of Highmore." It, like other air cells of the skull, is lined by the Schneiderian membrane. It is of significance to the oral surgeon because it comes within his jurisdiction to treat its diseases, and it is the only air cavity that bears any relationship with the teeth. The antrum is located mainly within the superior maxillary bone, but its walls are completed only by the addition of the inferior turbinated, lachrymal and palate bones, which bones are interested in forming most of its nasal wall. It is triangular in shape, with its apex pointing to the canine fossa. The base looks backward toward the palate. The other walls look respectively toward the nasal fossa, the orbit and the palatine process of the superior maxillary bone. If this cavity has any function I think it differs somewhat from the function of the remaining air cells of the head, *viz.*, to warm the air before it passes to the lungs. To retain the contour of the face nature has combined in this bone, by the formation of this air cavity, both lightness of weight and extent of surface. She has furnished an ample frame for the face and yet retained the remainder of weight in the poise of the head. If the cavity were solid bone tissue, it would make a remarkable difference in the weight of the head. There is another feature of importance which is the better maintenance of blood supply to the face, and of direct importance to the dental surgeon, in that by the presence of this cavity a freer supply of blood and nerve force to the molars and pre-molars is maintained. All diseases of this cavity would be treated surgically. Yet we would not wish to magnify the importance of the diseases connected with it. It is subject to about the same diseases that may affect any other mucous

membrane; add to this the fact of its being a cavity of some obscurity, and rather restricted walls, and we have in view all the obstacles with which we have to contend in diagnosis and treatment. Any antral disease attains importance, not as regards the antrum itself, but as the progress of the disease affects the surrounding tissues. In most cases while the disease is confined to its own walls there is little or no inconvenience to the patient; but should it press upward, the orbital cavity is invaded. If the disease should extend at the expense of the inner wall of the cavity, the nasal fossa would be invaded, and should the floor of the cavity give way, the mouth would be associated with the disease. A forward projection of the disease would involve the face. From this we find that the oral orbital and the nasal cavities are not only liable to be connected in disease with the antrum, but owing to the thinness of the partition walls they are easily invaded.

For purpose of diagnosis and treatment of any disease of the antrum, access to the cavity must be gained. There are three ways of entering the antrum. There are two ways practical to the oral surgeon, and both of these are by way of the mouth. These are by way of the canine fossa, which is a little depression just posterior to the root of the upper cuspid, and by way of the alveolar cavities of the bicuspid and molars. The third entrance is by way of the middle meatus of the nasal fossa. This, in reality, is the only entrance which in the recent state is open. The dental surgeon is not equipped with instruments for treatment through this opening, and had better restrict himself to the other means of egress. Entrance should be gained into the antrum by way of the canine fossa when the apex of the cavity can be definitely located. The disease may indicate the position of this opening, and under the circumstances you are justified in perforating with a steel instrument and enlarging the opening to a convenient size. This is especially indicated if the teeth are all present and found to be intact.

Engorgement of the antrum characterized by facial tumor is the indication for this plan of procedure. Where facial tumor is not present, there is no absolute rule by which you can reach the antrum through the canine fossa. The development of the antrum is so variable it cannot be perfectly determined just how far forward the cavity is developed. It may be as far forward as the cuspid or no farther than the first molar. There is little risk in forcing entrance through the palatine root of the second molar, and this means should always be resorted to if possible. Facial tumor and preservation of the teeth would indicate the canine fossa operation. The alveolar operations are preferable where the preservation of the

teeth are not concerned. It would be of no purpose to enumerate the various diseases which may afflict the antrum and indicate their treatment. These points of information may be gained by consulting any chapter on mucous membranes and their diseases. With the antrum the diseases are complicated by their being confined to a cavity. Free and open drainage for the cavity is the first principle of treatment; antisepsis the other.

The operator is frequently brought in contact with the antrum accidentally in the process of extracting teeth. This may occur by forcing the root into the antral cavity, thereby fracturing the alveolar wall, or by tearing away part of the floor of the antrum with the root of the tooth. Either may produce a complication in the form of troublesome inflammation. The former mishap would necessitate the enlarging of the opening made, and a removal, if possible, of the foreign body. If this could not be accomplished, the opening should be enlarged.

There are, no doubt, many obscure pains, especially of a neuralgic nature about the head and face, that arise from antral trouble, and a little surgical interference will often relieve complication.

There are diseases of the antrum, that are brought by association with the other air cavities, amenable to treatment through the nasal opening of the antrum, but these are not in the fold of the oral surgeon.

G. S. Junkerman, Cincinnati.

"HOW TO HAVE GOOD TEETH."

In the May ITEMS, under the head of "How to Have Good Teeth," is the statement that the Dental Society of Philadelphia awarded a prize for an essay, which, among other things, contained the following:

"(5) Never use a dentifrice containing acid, alkali, charcoal, soap, salt, or any gritty or powerful detersive substance."

Now I would like to know what objection there is to a good dental soap? What is there so excessively delicate about the mouth or teeth that soap will play havoc with it? If this is true, how would the numerous other articles brought into contact with these parts be tolerated as they are? How can cleanliness be secured in a more gentle, non-irritating manner than with soap? We may rub the skin off our hands trying to remove stains, which will come away with slight friction by the addition of soap. Can it be possi-

ble that it is necessary at this late day to teach the members of the Dental Society of Philadelphia the use of soap and water? The truth is hundreds of writers in all professions write and print without thinking for a moment what may be properly said on the other side, which, if done, would show them how misleading and absurd a careless statement may be, while if modified may command the respect, at least, of the thoughtful.

"(6) Powders and pastes are generally objectionable. They injure the gums and soft parts of the teeth, and greatly assist in the formation of tartar. A wash properly medicated and carefully prepared is pleasanter and more beneficial. It dissolves the injurious secretions and deposits, and the whole is readily removed with the brush and water."

A more remarkable statement than the above can hardly be found in periodical dental literature of the past twenty years.

Where are the "soft parts of the teeth" that can be rubbed away with a good paste or powder, as people generally use them, that had not better be so rubbed away, instead of allowed to remain to cause deeper decay?

How can a powder assist in the formation of tartar? It is to scour away the first deposits that powders and pastes were invented.

What are the ingredients of a wash that will dissolve tartar so it can be "readily removed by brush and water," and not at the same time injuriously affect the teeth? Say at least more than soap or a good powder would do. There is not a hint in the prize essay of "How to Have Good Teeth" that tartar must be removed by the dentist mechanically. If any one knows how it can be done otherwise without injury to the teeth, let him say how it can be done. That is, give names and proportions of the articles that will form such a very desirable wash. No one has done so heretofore, and, if the prize had been awarded for such a wash, it would have been much better than for the advice in the essay. What is so surprising about the foregoing quotations is that a prize should be awarded for such an essay by a "dental society in Philadelphia composed of about one hundred members of eminent ability." I have no idea who one of them is. I especially object to anything savoring of personality in the discussion of such subjects. But I do not hesitate to say that it is the duty of some one to controvert all such statements as contained in the quotations I have made above. Sometimes assertions are from such a clearly irresponsible source that it is as well not to notice them, but this case seems different.

W. E. Driscoll, Manatee, Florida.

STEADY, BOYS ; WORK HARD, BUT DO NOT RUSH.

Dr. C. S. Stockton, before the dental graduating class at Vanderbilt University.

This is an age in which everybody appears to be in a hurry. Speed at the expense of safety, comfort, and even long life, is supposed to be the chief end of man. The American habit of brag runs almost altogether into boastfulness of things accomplished "in no time." The Chicago man brags of the hog that goes in squealing at one end of a chute and comes out at the other end barreled and merchantable pork, all in the twinkling of an eye. And the Chicago demon of haste takes possession of a majority of our population. Hurry is infectious, and thousands of men move on the double quick merely because their neighbors do. Business men snatch their news from the headings in the newspapers, their intellectual improvement from placards in railway stations, their religious incitements from fragments of chance conversations, and their bodily nourishment from flying lunch counters. "What a hurry we are all in," they say, breathlessly, proud of living in the age of hustling ; and then they plunge away again, as if immortality depended upon their being ahead of all competitors.

There is a great deal of humbug about all this hurrying and scurry through life. Our grandfathers, sneered at as slow old fellows by the present generation of "hustlers," accomplished more in their leisurely, deliberate, and careful way than their degenerate successors do, if we take into consideration the wonderful additions made in recent years to the machinery and appliances of trade and commerce. Those very respectable old fogies of past ages planned and executed great works, founded immense fortunes and achieved magnificent and lasting results in every department of human society. Yet we know that they worked without hurry and without the multitudinous labor-saving appliances with which the modern man of business surrounds himself. As a matter of fact, too, it will be found that a majority of the crowds that daily rush and worry through the streets accomplish little or nothing in the world, and when their brief hour has been fretted away, have nothing whatever to show for their tumultuous struggle. After awhile, perhaps, our people will learn that the age of hustling, and all its feverish nonsense, is worse than unproductive of grand results. They will presently discover that there is no occasion for steady maintenance of high-pressure speed, and that no solid results can come out of a life which is a perpetual scramble.

Yes ; the scramble for success has seized on us all. The world is full of contrasts : Night and day, life and death, joy and pain,

the resplendent sun, the song of birds, the sight of fair fields, are inspiringly beautiful; yet were it not for the night, we should know nothing of the mysterious grandeur and glory of the stars.

Men may gloat over their successes, but failures will come.

One man's ideas may be very high; another's exceedingly low. One succeeds without effort; and such attainment would be disappointment to another, but the world applauds lustily the easy, brilliant performance. Success is the thought of life, rather than the patient working out of its details. We accept the standards which a false condition of society raise, and glamour with the pomposity of wealth all those successful, who, like Gould and others, win through cunning and unscrupulousness.

There is no difficulty unsurmountable, no sorrow unbearable, no failure irreversible.

There must be adaptability between man and his work. Square men were never designed for round holes. To every man there is a place; but there are hundreds of men trying to make life's voyage, and though they have clear notions of how they ought to act, they are dragging about with them the anchor of ignorance and superficial knowledge.

Hard work is the great factor of success, and Goethe truly said that there is no genius but hard work.

The busiest are the happiest. Work is the salt of life. A pair of shirt-sleeves are a good coat-of-arms.

The napkin in which the slothful servant wrapped up his talent was the sweat-cloth with which he ought, in his toil, to have been wiping the beads of perspiration from his brow.

Some men have too aristocratic conceptions of their dignity and the snobbish notion of the meniality of work. That merchant never succeeded who was not content at some time, or in an emergency, to do the drudgery. A dainty, lily-white fingered dilettante, looking with holy abhorrence on soiled hands or clothing, may indeed live a sort of effeminate, emasculated, wax-doll existence; but as for noble doing or succeeding in the strife of life, when Greek meets Greek, they are miserable nonentities. Mere leisured ease is contemptible beside the horny hands of the hod-carrier.

It is the man who, in the beginning of his career, can intelligently lay out his life-work, set himself to a task which shall require twenty or thirty of his best years, and devotedly persevere in it, who wins, who can endure all discouragements and adverse criticisms, and keep the end steadily in view. The man with moderate ability who plans and economizes his time, and gets the whole

worth of his existence, is the victor; he lays out a campaign, not only for all summer, but for his whole life. For any man, especially a professional one, the closest, severest study is requisite to success. It was the motto of a celebrated chemist to examine all the contents of vials which others threw away. Only by the most continuous reading can the professional man keep abreast with the thoughts and discoveries of his chosen calling.

Take the world as you find it—a hard and stubborn one—and do not expect to convert it in six months, but do not sneer at any genuine, hearty effort at reforming humanity.

The world is growing better. With some the time to act never comes; they devise their plans and elaborate them, but never put them into actual endeavor. You must know when the iron is hot enough, then strike.

There is a tide in the affairs of men which, taken at the flood, does lead to fortune. It was not wholly by accident that the lucky buyers of Boston Back Bay land became rich, or that investors in Nashville to-day may be millionaires of the future.

The civilities of life, the courtesies and deferences which dignify the true gentleman, have been the key of many a man's success. Destiny may hang on politeness.

Out of difficulties grow miracles. Misfortune crushes the weak, but nerves the strong to greater effort. To the wise man failure, instead of overwhelming him, only teaches him more carefulness in constructing his plans and conducting his experiments. The chemist detects clearly the ingredient which balked him, and makes some grand discovery through his very blunders. The Roman general was determined to "find a way or make it." Cyrus Field tried over and over again before he succeeded in laying the cable that binds the continents. Then the sarcasm of nations was changed into applause.

Whittier writes:

Well, to suffer is sublime!
Pass the watchword down the line,
Pass the countersign "Endure."
Not to him that rashly dares,
But to him that nobly bears,
Is the victor's garland sure.

Determination to get well has much to do with recovered health.

You can, if you try, make it as uncomfortable for the whale as the whale can make it uncomfortable for you. There will be some place where you can brace your feet against his ribs and some large upper tooth around which you may take hold, and he will be

as glad to get rid of you for a tenant as you will be glad to get rid of him for a landlord. There is always a way out if you are determined to find it.

"Truth crushed to earth shall rise again. The eternal years of God are hers." He who anticipates disaster suffers from it twice over. Cowards die many times before they taste of death; the brave man dies but once. Let us never lose heart.

High hopes go down like stars sublime,
Amid the heavens of freedom;
And brave hearts perish in the time,
We bitterliest need 'em.

But never sit we down and say,
There's nothing left but sorrow;
We walk the wilderness to-day,
The promised land to-morrow.

But most of all, measure success or failure by the good you do humanity. You may not in your profession become a great authority, leading and perpetually suggesting, but as one of rank and file you will have the satisfaction of knowing that you have done something to elevate humanity. Contrast a high philanthropic life with one devoted to mean, sordid ends. There is joy in the giving of comfort and felicity in the retrospect, and enviable is he who goes down to his grave loaded with the respect of his fellow practitioners and bewailed by the friendless.

There is, in dentistry, something more than the filling and extracting of teeth and the insertion of artificial ones. If an iron-puddler spoils his mold, it is no great loss; or if your barber mangles your hair in cutting it, it will repair itself; but when the clergyman, through ignorance of theology, misleads an inquiring mind; when a lawyer, through mismanagement of his case, risks his client's life; when a physician, by culpable stupidity, slays while pretending to save, it becomes a crime. So with the dentist, who, by his reckless hand's work, inflicts useless suffering, or mars his patient, or leaves a memorial to curse him in snags and roots of bitterness. Our aim should be to discover the best methods of doing quickly and painlessly what is considered by many a slow torture.

As the medical profession has found its way from blistering, bleeding, and the administration of heroic boluses and preposterous powders and potions to the truth that the mild power cures, so our intention must be the invention of schemes which shall leave no injury and inflict no pain. It is for us to study our work on a tooth with as much forethought and carefulness in detail and prearrangement, as the diamond cutter displays in fixing on and polishing the faces and angles of his sparkling gems. In our efforts to

conserve the teeth we should remember that we are dealing with a portion of God's handiwork, a part of that creation which He pronounced "very good."

So while we study the various arts and methods whereby we cover nerves and still their throbbing, and fill its exterior with the precious metals, while we seek medications and the most efficacious process for arresting dental decay and death, let us learn reverence for our work, and how sublime that work which shall restore to primeval health and usefulness one of the Creator's gifts to man. And since the house we live in can be materially reconstructed—our eyes fitted with spectacles, our ears with trumpets, our teeth with fillings and crowns which serve the same purpose as the original parts—we learn how to replace the wreck which rottenness and death have made. We prepare the mouth for the substitutes of its late occupants, and place these partial or complete dentures that are almost the counterpart of nature. Sometimes we even do better than nature herself, for some men have such miserable teeth that the poorest artificial ones would serve better.

As we find ourselves investigating the manufacture of teeth, we exclaim: "What a work for an artisan is this!" Compared with it, what is the restoration of a painting or a fresco, or the rebuilding of a palace? These deal with lifeless stones and pigments, while we with matter having within it the breath of life. Consider what belongs to the saving of an organ. It is in proportion as honorable as the sacred duty of saving life itself. The decaying teeth give us our first disagreeable impressions of our mortality; this is the first start of that crumbling away which by and by shall attack irresistibly the whole frame and level it with the dust. Thankful we should be to him who can put away from us these unwelcome suggestions to our thoughts.

Again, if there be superlative merit in the creation of any part of the body by the first Artificer, he who interferes to prevent its destruction must share in the glory. Physicians and surgeons are co-laborers with God in the human frame: He, conceiving and creating; they, preserving against untimely ruin and repairing the broken places. And not only the saving of the organ is under consideration, but the alleviation of pain as well. To give a quietus to the acute suffering of toothache, to act the part of saviors to society is something to be grateful for.

We sometimes may affect to disparage the pain which proceeds from inferior parts, we do not respect the protest of a tooth-nerve as much as the twinge of the heartstrings; but it is a thorn in the flesh, and will make the imperious and haughty soul attend.

It is curious to notice how a little thing will destroy a great pleasure. What is the majesty or loveliness of Yosemite to him whose back molar is calling him away from mountain and valley to be in sympathy with its obstreperous outcries. The resources of pain seem largely to predominate over those of pleasure; there seems to be ten avenues for the one to one for the other; pleasure is evanescent, and pain is lingering. Blessed is the man who can allay it somewhat. What hero will requite him who, though he never groaned in battle and is all unused to the melting moods, bows before the power of the demons boring into the very soul of sensibility, while he envies the boils of the patriarch who was never so afflicted.

Lives are sometimes abnormally shortened by the endurance of excessive pain; and to-day it is not so much work as rack which breaks down constitutions—the wear and tear and exasperation of nerves. The patriarchs lived their hundreds of years because they simply vegetated; a man at thirty now is a condensed Methuselah. Well for science, if she follows out what she has so well begun in the prolongation of human life by the banishment of pain. Already the duration of life seems on the increase, and the over-sanguine look forward with hope to recovery of pristine longevity.

Delineate before your fancy the picture of a toothless specimen of the *genus homo*. The sound of the grinding is low. The poet's oft-quoted line is falsified; a thing of beauty is not a joy forever, especially when the lips are sunken and expressionless, when the language of Shakespeare and Macaulay degenerates into an indistinct guttural and mumble. He becomes a mocking death's-head, a very genius of famine. All the lines of beauty are obliterated. What would be the Venus de Medici or Beatrice de Cenci without the warm, sensuous curves of the lips? All the force of character departs, for the mouth lines, more than any fictitious cranial bumps, are the proper indices of the brain within. How does the appearance of our luckless wight prejudice him in the estimation of the public, who judge him forceless and effeminate! Even the power of the tongue, either for kindness or malice, depends on the presence of the teeth. While it might be a blessing to humanity if some of our effervescent talkers would be visited with a caries which should leave their gums tenantless, where would be the eloquence of Depew without his incisors? But this is not the worst: moroseness sets in, and the hapless wit becomes a confirmed Puritan. Where are their gibes now, their songs, their flashes of merriment that were wont to set the table in a roar? Not one now to mock their own grinning! Quite chopfallen! Bad teeth or few, with the at-

tendant imperfect mastication, the prelude to all the gloomy horrors of dyspepsia, wherein the sufferer's self-consciousness is only consciousness of a stomach, give rise to all hopeless views of life and man's destiny. Even hope flags, that sentiment which is said to remain with us to the extremest verge of life. Faith departs; the gods forsake the sky; kind Providence is replaced by a melancholy and miserable chance; all thought and feeling are dead, and the tides of life ebb to the lowest; the most fantastic and atheistic views in philosophy are adopted readily; the whole universe seems bound by irrefragable chains of suffering and remorse; the stars shine with a yellowish glare to his gangrened vision, and a settled misanthropy possesses him, taunts him ever with the unanswerable interrogation: "Is life worth living?"

Consider how all this mournful record might have been reversed by a proper attention to our art. While happiness may not be the end of life nor the test of virtue, yet the pursuit of it is noble and engrosses all; and oftener than elsewhere it may be chased down and captured in a dental chair. Here beauty is regained, character brought back, the esteem of the public repurchased, hope restored, the world clothed in beauty, life shown to be full of desire and worth, the throne of the Deity unveiled, and the silver cloud turned out. Pessimism is pushed out by a rejoicing optimism which believeth all things, hopeth all things. A tooth root may thus become a root of all evil, and its extraction may operate like the eradication of original sin. The dental profession has not, perhaps, had the credit due them as creators of English literature; but Milton could never have written "*Paradise Lost*," nor Tennyson have composed the reflective "*In Memoriam*," nor Gladstone or Stanley made Parliament and Westminster ring with eloquence had they not first well masticated and digested good English beef; requiring jaws in good order under the care of a dentist.

It comes also in our plans to discuss the questions belonging to dental pathology; the application of special medication to special ailments, whether the difficulty arise from constitutional or local causes, and the proper treatment in each particular instance; for diseases, like individuals, have a personality of their own, and it is the invariable mark of the empiric to have a stereotyped prescription for a malady when general appearances are the same. They have the same likelihood of success that a physician would have who should enter a crowded assembly and scatter his pills right and left for the healing of the people.

Neither can we pass this division without noticing somewhat elaborately that grandest discovery in modern healing, the use of

anesthetics. This great boon has given the world a foretaste of that time when there shall be no more sickness, neither shall there be any more pain, for the former things have passed away. While the most critical operations are being performed, men may have visions of the Lotus-eaters, "with half-shut eyes ever to seem, falling asleep in a half-dream," feeling that "there is no joy but calm," "resting weary limbs on beds of asphodel," and whispering: "Surely slumber is more sweet than toil." How much of the unspeakable horror of war is mitigated, and the primal curse upon Mother Eve in mercy assuaged! "I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children." While one would be writhing in agony, to be floating upon a calm and shoreless sea, oppressed only with a delicious sense of our own infinitude and ecstasy. While busy phantasy conjures us with gorgeous dreams! To sleep—and by a sleep to say we end the heart-ache and the thousand natural shocks that flesh is heir to—'tis a consummation devoutly to be wished. But the wished-for boon is found. What King Lemuel says of wine is truer of the ethers and chloroforms and the nitrous oxides: "Let him drink and forget his poverty and remember his misery no more."

What statistical table could give the lives saved when the surgeon could work with his patient under this dreamful influence? How rapidly and unerringly can he use his implements, undistracted by the moanings of the subject or the panic of the friends! How often would the debilitated frame have been unable to endure the exhausting drain upon the nerves by operations which are now rendered safe! The man is as unconscious that his tooth is gone as is the victim of the clever Oriental executioner, not knowing himself decapitated until the latter obligingly gave him some snuff and the head therewith tumbled off. But there is enough pain in the world for which there can be no narcotic or opiate—that we bless providence for this.

And we must not pass over the correction of dental irregularities, whereby man's mouth—as overcrowded as a frontier hostelry with three in a bed and the floor stratified with slumbering humanity—is rendered commodious and presentable. When eccentric teeth, each with a predilection of a separate angle, make a line as irregular as the boundaries of counties on the Kentucky map where no two join, one imagines that the man may be one of those poets who don't know it, one of those "mute, inglorious Miltons," with heavenly visions, but no gift of language; and that his ponderous thought created an earthquake in his mouth, endeavoring to find expression. Ah! well for humanity, unprepossessing as most of it is; well for

the prospects of wedlock on the part of foreordained spinsters and benedicts, that cross eyes and crooked noses and jutting teeth can be brought around straight.

It is given us, then, to work with the human face divine, bringing out latent improvements and investing it with unforeseen beauties. We are artists surpassing in our material and effects the production of Raphael or West. We have not to saturate canvas, or chisel stiff, unyielding marble; but our matter is living flesh, and our product an animate thought, a glowing beauty! For though beauty may dwell in mountain, tree, and landscape, its highest throne is in the face of man, and we who remove the obstructions to its appearance are performing as noble a service as he who takes away the soil and muck from the beautiful statue of Apollo found deep in Roman mire.

Think well of our high prerogative in the restoration of speech when this is lost, occasioned by lesion of the palate, and so comes within our province to cure. Speech is one of the highest dowries of man; by it he is separated from the beasts that perish; for though they may give vent to emotional cries, there is in them none of that Godlike faculty which uses arbitrary sounds and symbols for the expressions of the profoundest thought in literature and philosophy. Without speech there could be little thought, for it is in language that our ideas are preserved; and as they flash through the brain they speedily vanish unless caught and imprisoned in words. Hence there could have been no development of man's brain, no civilization beyond brute knowledge. If it be a worthy thing to unstop the ears of the deaf or unseal the eyes of the blind, surely our functions in bringing back a man's departed power of utterances is no less praiseworthy. The age of miracles has indeed passed, but science, by slower but yet efficacious steps, is coming to the relief of suffering mortals: the blind can often receive their sight, the dumb are taught to speak, and it is our privilege to co-operate in these achievements. Speech is said to be silver, and silence golden; but this is only said of foolish babbling, not of wise discourse. Great is our glory, therefore, if we can bring back to man the power and pleasure of communicating his conceptions to his fellow-men, of moving multitudes by his eloquence, and with the highest exercise of language of audibly praising Him who gave to man a mouth and speech and wisdom.

We should know something of the principles of chemistry, especially its relation to *materia medica*. We should examine with all the ardor of wise old alchemists—falsely deemed mad—the *pharmacopeia* of nature. Earth is indeed the nurse of man. She

possesses for every sickness or wound the *vis-medicatrix*, the Gilead balm for the afflicted. Her every vein is full of life and healing. She lays her hands on the heads of her children, and the fever departs and they are healed. Into what a wonderful world has man been introduced! A world stocked with forests to give him shelter, with food to maintain life, with coal supplied to warm him—all long before he came on the scene—an anticipation and prophecy of his lordly advent! Does it not prove a far-reaching design, this adaptation of man to his environments, this nice relation of the being to his home? Never did the bridegroom bring his bride to a house more fully furnished, and realizing before every need. But not only to dwelling and eating man, but to sick and suffering man was the earth prearranged. The soil, the air, the water, the vegetation were stocked, as the great pharmacy, ready to dispense any drug for whatever nameless malady might appear. Man was to love his earth-home.

How varied is the purpose and power of any single drug! What mind could have invested it with such multitudinous properties so nicely forecalculated for human emergency! Every day scientific explorers are bringing in new remedies from the arcana of nature, and whatever mysterious affliction—yellow fever or diphtheria—may baffle skill for the present, we never once doubt that earth has in some of her hidden vials the proper remedy, and so we do not in hopelessness remit our search. Long did the ancient alchemist seek for that one potent drug which should be a cure for every ill. But the panacea exists not in any one potion, but does exist in nature as a whole. It should create in us an ever-increasing desire to know the materials, their purposes and properties for the repair of our frames—phosphorus for the bones, phosphates for the brain and nerves, iron for the blood; and so for the proper food of every tissue, muscle, and cell we have only to eat the dust of the earth.

We should also know something of physiology, and learn "What a piece of work is man." How noble in reason! How infinite in faculties! In form and moving, how expressive and admirable! In actions, how like an angel! In apprehension, how like a God!—the beauty of the world, the paragon of animals. It is as an animal we will have to view him, yet this is sacred and ennobling. David cried: "When I consider Thy heavens, the work of Thy fingers, the moon and the stars which Thou hast ordained, what is man that Thou art mindful of him?" Yet man in his mind outweighs the universe, and even his body in its form and symmetry equals the harmony and perfection of the heavenly spheres.

"The proper study of mankind is man," not only the laws of his mental and social growth, but of his physical development. Consider him only a machine, and it is enough to awe us in dumb admiration. Only recently have the sciences of physiology, histology, and embryology been written. Men confused themselves for ages over insoluble problems of will and destiny, and held a knowledge of their corporeal existence in contempt. Yet what a being! Allied on one side with the higher apes, on the other the temple of the Holy Spirit—a thought—a poem—of God, not written with pen and ink, but with blood on fleshy tablets of the heart! And is this he, who, they say, was evolved out of star-dust, a statue of clarified mud, raising itself out from the primeval ooze and slime? Can one go into the laboratory and so unite his chemicals and breathe into them the breath of life, that they shall move and think in human semblance? The stars in their courses are

Forever singing as they shine :
The hand that made us is divine.

If the "undevout astronomer is mad," no less the undevout physiologist.

We should know something of the process of digestion and the laws of hygiene. For though these subjects, with their earthly suggestions, might shock an Eastern mystic and transcendentalist, the majority of mankind are "creatures not too bright or good, for human nature's daily food." We are not yet ethereal, and cannot subsist on nectar and ambrosia. These modern times are insisting, rightly, more and more on the necessity of properly cooked food. If a man does not intend to prescribe for others, he has the solemn responsibility of his own body to look after. Men of knowledge must preach more continually and persistently to the masses the necessity of attention to hygienic laws. The laws of cleanliness, eating, and general preservation of health must be reiterated strenuously, so that a blockade against disease may be enforced. It is the evil effect of too high a civilization that men sin constantly against their stomachs and think themselves pious, when a little of the healthful barbarism of savagism would be beneficial. The body in its health must be shown to be under as immutable laws as govern the planets. Each man has branded in him Scotland's imperial motto, *Nemo me impune lacessit*—(No man insults me with impunity). How may you add to your enjoyment of life, making it a continual ecstasy simply to be! And how many a lay sermon can you give your patients on the care of their wonderful frames!

We should know something of the mysteries of anatomy and surgery. It may be objected by some that we have no need of a knowledge of these—that ours is a specialty. Yet the evil of the contracted specialism is seen in the belittling effects on the human mind. He who spends his whole life fixing the heads of pins becomes as small as his work. The time was, and not long ago, that tooth-pulling and blood-letting were done in shaving shops, but the profession has since attained higher dignity. The man who knows only his own specialty does not know that thoroughly. If he cares only to learn enough to make his bread, caring nothing for science for truth's sake, he is base. Dentists do not want to pull teeth as a blacksmith would a horseshoe nail. They must be more than respectable jaw-carpenters, more than mere sawbones. The good blacksmith will not stop at the hoof, but will know the whole skeleton of the horse. The good dentist will not be content with knowing only the teeth and being ignorant of all other bones and how to repair them. One man is a decent house shingler, another is the architect of St. Peter's.

Look again at the broadening and culturing effect of this study. While it lies parallel with our vocation, it is yet so deep and requires as much profound reflection that equally with the ancient languages or mathematics it enlarges the reasoning powers, cultivates acuteness of observation, breadth of judgment, and an acumen that can be brought to bear upon every affair of life.

Strive for an unfading crown of capability to benefit your fellow-men.

The value of education is incomparable. It is good for its own sake, for the pleasure it adds to life; besides which it will introduce you into the society of the cultivated and secure a more refined and better paying patronage. It is an inheritance that cannot be taken away—more valuable than any other form of advertising. But of what use shall the most classical culture be without the formation of good habits? We teach our children Greek roots and Latin verbs, and the number of angles in a triangle, and then they go out, steal, and get drunk. You may be ever so skillful, and yet if you are not affable and gentlemanly, cleanly in your dress and person, refined in your language, no gentleman or gentlewoman will hire you. A lady said she would not trust any prescription of Dr. Epps' because he did not believe in the personality of the devil! Little things determine our success, just as the pebble on the Rocky Mountain may deflect one stream to the Atlantic and another to the Pacific. Choose a high ideal and maintain it.

OXYPHOSPHATE.

This is a material rarely depended on for extensive contour work. Yet there are two special conditions in which it may be made extremely useful. I once was applied to by an actress who had lost the corner of a central incisor. The tooth was unusually large, and the missing portion extensive. A gold corner would have been very noticeable to her audiences, and would not be tolerated by herself. It is possible that at some time in the future porcelain fillings will be brought to such a stage of perfection that a case of this kind can be readily handled. The lady, however, came to me long before such work was ever advocated. She simply asked me to restore the tooth with what she termed "bone-filling," and I did so, using considerable care to obtain as perfect match to color as possible, and succeeding fairly well. I replaced this in less than a year. It must be remembered that as soon as a small part of the mass had disintegrated the contour was obliterated, so that refilling in this position would be needed more frequently than ordinarily. The third time that I was asked to fill this tooth, I observed that the wasting away was mainly from the palatal side, outward. This compelled me to think a little, and I devised a mode of procedure which I have since followed in similar conditions, with gratifying results. I first restored the shape of the tooth as before, using an oxyphosphate. This done, I burnished a thin piece of tin over the palatal portion of the filling, extending it partly around the proximal surface, and over the cutting-edge, trimming it to shape. With this as a pattern, I cut out a similar piece from thin gold (24-k.) plate, and treated it in the same way, thus fashioning a tray which would hold the material, and protect it wherever it was covered. This bit of gold was then soldered where the two turned edges came together at the angle of the corner, and a thin layer of solder flowed along the inner side. Into it were then dropped stray bits of gold, or platinum, and when heated up once more these were caught and held by the solder, producing a roughened inner surface. The filling was then removed entirely from the tooth. Its first insertion was intended only to serve for molding the gold tray. The gold tray was then held in place against the corner of the tooth, and fresh oxyphosphate inserted. When this was hardened the whole was finished with sand-paper disks, and presented the appearance, from the palatal aspect, of any ordinary gold filling, while labially we had the oxyphosphate simulating the tooth in color.

Another condition where extensive contours may be safely effected mainly with oxyphosphate, is where a large portion of a tooth being missing, let us suppose that we find the tooth itself intensely sensitive, so that we should hesitate to insert a metallic filling. Or the patient may be of such temperament that it would be hazardous or injudicious to compel as long a sitting as would be necessary for the insertion of gold. It may be desirable to reject amalgam, because the location is such that it would show. The plan that I have followed with success is to temporarily restore the shape of the tooth by inserting an oxyphosphate filling. Next I take an impression and dismiss the patient. During his absence I mold pure gold plate over the plaster model, forming a contoured cap to cover the oxyphosphate, which I insert at the next sitting. The inner side of this cap is treated as before, either with pins or loops soldered in, the appearance being simply that of a gold contour filling, because the edges are polished down to the finest taper, which can be done so nicely that the point of an explorer will pass over them, and silk not catch under the gingival margin.

These caps for oxyphosphate become invaluable in the treatment of *children's* permanent teeth. When the little ones come to us with gaping cavities in their sixth-year molars, what are we to do? We frequently find extensive caries without real exposure of the pulp. It is greatly desirable to save these teeth alive, as a dead pulp in a sixth-year molar, at this time, even though thoroughly removed, may almost surely be counted a forerunner of an abscess later in life, and probable loss of the tooth before the age of twenty-five. So far from considering these teeth good subjects for extraction, I take unusual pains to save them. I think this can be accomplished with oxyphosphate better than with anything else. Here again I fill the cavity temporarily, in this condition placing cotton, which carries a medicament first, and covering with gutta-percha or temporary stopping, carving it into fair shape for mastication. I then take an impression, and if it be necessary make dies and swage a piece of pure gold to cap my cavity and give me a good masticating surface. These caps should *never* be made to do service over *gutta-percha*, as that material by swelling may dislodge the gold covering. In all cases the edges should be as thoroughly polished down as though it were a true gold filling. Filling large cavities mostly with oxyphosphate, and finishing with gold or alloy, is better than an all metal filling. Thus oxyphosphate has its place, and more so, as we become acquainted with its various uses.

—R. Ottolengui, in *Cosmos*.

AMALGAM FILLING.

It is frequently admitted that amalgam has been a much-abused material. This charge against dentists is more true in relation to contour fillings than in any other connection. It will not suffice to say that, for contouring, amalgam is a *valuable* agent. It is necessary to say that it is *invaluable*. Its usefulness is inestimable. It may be made to save teeth which, without it, would be lost, or, at least, even if saved, would be of but slight service for mastication.

In the realm of contour work, amalgam occupies a place that is unique. With it can be restored all those forlorn cases, those wrecks, which half a century ago were inevitably consigned to the forceps. Yet, with shame it must be admitted that only a very few men know how to obtain the most desirable results with amalgam in these very cases. The man who can restore a molar where caries has advanced beneath the gum, two or three cusps being entirely absent, and build on this unpromising foundation a tooth which becomes as useful as the original, and which, moreover, remains permanently in place without fretting the gum and without inviting decay along its borders, has more right to count himself skilled than the best gold-filler.

In small cavities the plastic is the more manageable material, but as the size of a cavity increases, manipulation with gold becomes *less* difficult, the added obstacles being only the tediousness of a lengthy sitting. With amalgam it is otherwise, for the larger the cavity the *more* difficult it becomes to attain the highest success.

Amalgam, then, in contour work may well attract our special attention. I must point out the obstacles to its proper use, and tell how to combat them. How often have we all expended a half-hour or more restoring a lost corner of a molar, only to have it return on the following day, with a portion missing? We say to the patient, "You must have bitten something on that before it was thoroughly hardened," but that is no satisfaction either to patient or dentist.

This tendency to fracture, in an amalgam filling, is due to several things. Of course, if the occlusion be sharp, the explanation given by the dentist may be true; mastication may have dislodged a portion of the mass. But where such an accident is possible, the dentist must note the fact and guard against it in advance. The filling must leave him so shaped that it will not be disturbed by the closing of the jaws, even so much as by the production of

a slight scratch, by the perpendicular or lateral action of the jaw. The patient must be asked to gently move the jaw from side to side, as he would do in eating. This brings the cusps of the opposing teeth into all the different relations which they are to bear, and if the filling is unmarred by this, the single warning to chew on the opposite side during the succeeding day, if obeyed, will bring the filling in good condition, or we must protect the filling, temporarily building a tooth with gutta-percha.

But it is often by a cause other than mastication that the filling is broken. We take the utmost care to keep a gold filling free from moisture, yet some men do not hesitate to insert amalgam with the cavity and surrounding parts flooded with saliva. This so-called submarine work not only should not be practiced, and a clinician showing it before assembled students, or practitioners, should be roundly condemned. In contour work with amalgam it is of the utmost importance that the perfect crystallization of the mass should not be interfered with by moisture. The filling should be kept dry throughout the whole operation, if possible. Where the cavity extends far beneath the gum-margin, the tooth may be filled in two operations, though at the same sitting. Using the napkin as a dam, amalgam must be packed till it extends beyond the margin, sufficiently far so that the rubber-dam may be placed. Then the cavity, and the amalgam already in place, may be dried and the filling continued. Thus it is shown that because a cavity cannot be kept dry with rubber-dam from the outset, that is no reason why the filling should be allowed to become inundated several times, through a vain effort to control moisture with a napkin.

The next important point is to avoid fracturing the mass during the operation. This involves simply the proper application of force, and the proper consistency of the material. Amalgam, for use in a large contour, must be prepared slightly more plastic than for ordinary work. It is to be packed with balls of bibulous paper, with a wiping motion, thus forcing the material against the cavity-walls, as long as this action can be carried out. By this course the excess of mercury is forced out, and crystallization begins at once. Thenceforth the particles of that portion of the mass already in position *must not be disturbed*. If, by exerting force in a wrong direction, a part of the filling is fractured off, *it is folly to hope to get a good result by patting it back with a burnisher*. *The reunion will not be as strong as was the original union*. It would be better, where the accident does occur, to remove the separated piece, replacing it with freshly-mixed material.

Whether the remainder of the filling be packed with bibulous

paper or with burnisher, it is from this point on that fracture is to be feared. The rule is very simple. *Pressure must be exerted only in line with the greatest resistance, offered by the tooth itself.*

The last essential is to dismiss the filling as far advanced toward crystallization as possible. This may be best accomplished by burnishing gold into it.

—R. Ottolengui, *Cosmos*.

NITRATE OF AMYL.*

This drug has received considerable attention from the medical profession during the past few years, and is of interest to dentists, as it is one of the best antagonists to cocaine, and is so recommended by many of our authorities. It is also used very successfully in collapse from anesthetics, and in hysteria. I might enumerate many uses for the drug, but suffice to say, it is a powerful antispasmodic, and whenever indicated, nitrite of amyl will be found useful.

Nitrite of amyl is a yellow liquid, very volatile, and with an odor which some liken to over ripe pears, but which I always remember by its similarity to that of the squash-bug. If you have ever been near that animal you know the odor; and I feel sure, when once you have become familiar with it, you will never mistake it.

The best test for it is its most striking property, that of flushing the face when inhaled. There is also a sense of fullness, of giddiness, and sometimes syncope, which latter is caused by the sudden rush of blood to the periphery, thus drawing it from the brain. This flushing of the face was first noticed by Dr. Guthrie, in 1859. It was not till 1866 that attention was again called to the drug by Dr. Richardson. Dr. Richardson presented the following conclusions:

1. It is absorbed by the skin, stomach, lungs, and cellular tissues.

2. After absorption its effects are seen immediately on the heart and circulation, producing, first, violent action of the heart and dilatation of the capillaries; followed, secondly, by diminished power of the heart and contraction of the extreme vessels.

3. In man it can reduce the forces of respiration and circulation to the extent of a trance or catalepsy.

4. It is not an anesthetic; by it consciousness is never destroyed, unless a condition approaching death be produced.

5. The effects of the nitrate are through the motor force, which it wildly excites and then subdues.

*Read before the Harvard Odontological Society, December 23, 1891.

6. The *modus operandi* of the drug appears to be by arresting the process of oxidation of the tissue.

7. Physically the nitrite is between the volatile and solid bodies. Hence its effects are less effervescent than those of very volatile substances, as ether, chloroform, etc., and less certainly destructive than the solid substances, as opium, etc. In this lies the secret of its prolonged action.

It also paralyzes the nerves from periphery to center, lessening the contractile powers of the arteries.

Dr. Wood disputes the fact of its producing a great excitation of the motor system; he having found from his experiments that it produces a gradually-increasing paralysis. In regard to Dr. Richardson's other experiments, we will leave them till we come to those of other men, some of whom will confirm and others dispute them.

In regard to the trance, which we will find disputed, it is but fair to say Dr. Richardson observed animals lie in this state for many hours. You will also please remember what he says about its not being an anesthetic, and its acting by arrest of oxidation of the tissues.

Dr. Brunton has, perhaps, investigated this subject as thoroughly as any experimenter up to the present time. They were performed in the laboratory of, and observed by, Professor Luding, of Leipsic, and must carry great weight. They are mostly on rabbits. The animals were not allowed to breathe the vapor directly, but were supplied, artificially, by an apparatus so arranged that air might be sent directly through the bellows and tube into the lungs, or passed through a vessel containing the vapor of nitrite of amyl.

I will now call your attention to a few experiments made by Dr. H. C. Wood. These experiments I take from his essay, successfully competing for a prize offered by the Massachusetts General Hospital, for original work.

A kitten was given twenty to thirty drops by inhalation. It died in a few moments without struggling. At immediate autopsy the heart was found beating strong, and continued to beat vigorously for ten minutes. Blood was found of a dark color; no distinction between venous and arterial blood being made out. In all his experiments this dark blood was present when the experiment was carried to death. Here is a severe blow to that favorite theory of some to account for anesthesia—namely, by withholding oxygen from the blood. Here is a drug which withholds the oxygen to such an extent that the venous and arterial blood cannot be distinguished, and yet is not an anesthetic.

Dr. Wood did not observe the trance-like condition observed by Dr. Richardson, and he claims consciousness is always lost very late, and not early.

In all his experiments there was a great loss of muscular power. This may have happened in four ways :

1. Impairment of the will-power to arouse the motor ganglia of the spine.
2. Impairment of the power of said ganglia.
3. Impairment of the conducting power of the nerves.
4. Impairment of the contractile power of the muscles.

In answer to the first and second, I may say there is no proof of the drug possessing such peculiar powers. So we will dismiss them at once as to the action on the conducting power of the nerves and the contractility of the muscles. Wood demonstrated in fatal doses that it affects but does not destroy the conductivity of the nerves. He then showed that the local application of the amyl destroyed the contractile power of the muscles. Therefore, the nitrite acted to paralyze the muscles, and this accounts for the great loss of power manifested.

This has an important bearing on the question whether the vaso-motor nerves cause the dilatation of the arteries.

Dr. Wood agrees with Brunton that the nitrite of amyl diminishes the blood-pressure; that the division of the vagus does not affect this result, and that it still acts after the division of the spinal cord at the neck.

It is usually administered by inhalation, and is comparatively harmless.

Weak and nervous people are very susceptible to its influence, and care should be taken when using it with them. A small dose should first be given as an indicator. Like many other drugs, a patient may become accustomed to its presence, and be able to tolerate large doses after inhaling it regularly. Persons using it for angina pectoris find, to get the relief they look for, they are obliged to increase the dose, and, finally, there are some cases where it has ceased to benefit.

This use of nitrite of amyl in angina pectoris is an illustration of a theory which worked well in practice. Brunton knew the distinctive property of this drug was to lower the blood tension, and also that the disease, angina pectoris, was always accompanied by a high blood-tension. Therefore, he prescribed nitrite of amyl, with what results can be told you by the many victims of the disease who break their capsule of amyl nitrite on their handkerchief

when warned of its appearance, and thus prevent the threatened attack.

It is usually administered by inhalation, and, as it deteriorates on exposure to the air, it is best kept in little glass capsules or pearls, three or five drops. These are broken on the handkerchief and then applied to the nostril.

The dose usually given by inhalation is from two to three drops. Not more than three should be given, unless the patient is accustomed to its use. I consider five as large a dose as it is advisable to give, and usually find two sufficient. It is administered by the stomach in doses from one-quarter to one minim; but the results are much more satisfactory when inhaled.

The antagonists to this drug are ergot, belladonna, and other spinal stimulants.

—Henry A. Kelley, in *International*.

THE PHYSIOGNOMICAL SIGNIFICANCE OF THE FACE AND TEETH.

The physiognomical function of the face is to depict to the world the true character of the "inner man;" it is the mirror of the emotions—yes, of the heart itself. The faculty of reading the character by the outward natural signs is instinctive in all men, though some have become so skilled by exercising and developing it that they claim to have occult powers, and with tact and a fertile imagination, do not fail to draw about them many faithful followers. Lavator says, "I am persuaded that faces are as legible as books, and are read in much less time, and are less likely to deceive us. I cannot recollect that my skill in physiognomy ever deceived me." This man was one of the early students of physiognomy, and, about 1800, wrote numerous volumes on the subject. His works are, as he termed them, "fragments;" they are without system; and, while they contain a great deal that is good and true, they contain much that is impractical. He has so loaded the truth with a burden of fantasy that he did not succeed in removing the study from where it had been for centuries—associated with the so-called occult arts.

The one person who has lifted it from these associations and placed it on a scientific basis, is Mrs. Mary Olmstead Stanton, whose latest work, "A System of Practical and Scientific Physiognomy," is found on the shelves of our best libraries. It comprises two bulky volumes of as solid and entertaining a piece of literature as ever came from the pen of man or woman.

In making up the facial features, the jaws and teeth play a very

important part. The teeth, standing as they do as guards about the entrance to the digestive tract, tell to the thoughtful student—by their size, form, color, texture, and relative position—not only of the physiological condition of the individual, but of the mental and moral power of weakness which have been created largely by physiological activities. Many suppose dental prosthesis requires only knowledge of abstract mechanics or merely manual skill. It is just here, however, in the preparation of artificial dentures that the highest workmanship is required. Each case involves the necessity of the possession of sufficient knowledge of the physiological and the physiognomical condition of the mouth, and skill to restore what is lost. We must first learn to appreciate nature's own work before we can expect to even approximate such perfection. From the similarity of the majority of artificial teeth, there is room in the profession for greater study and more artistic work. The closest study is needed here to correct the meaningless "horseshoe-style," so prevalent throughout the country. How often we see even, white teeth where every feature cries out against them. There are hardly two people with exactly the same facial angle and conformation. The patient's individuality should be well studied before an attempt is made to prepare an artificial denture. The temperament, contour of the face and body, the complexion, age, etc., should be considered, and the artificial denture be constructed in accordance with these physiognomical and other requirements.

Artificial teeth, as manufactured at the depots for the profession, are mere blanks that have to be—or, rather, should be—so shaped and prepared as to harmonize with the facial requirements of each patient. Take, for example, one of the sanguine temperament. We know nature gives this temperament teeth that are well proportioned—abounding in curves, arranged in a full, round arch—with an articulation that is moderately firm and corresponding generally to the contour of the face and head.

Often, to individualize the teeth, the cutting edges of the incisors must be ground to imitate wear by mastication, according to the age of the patient; the natural occlusion being nearly on end, the front teeth are much worn away. To imitate this waste of tooth substance gives the operator a fair chance to show his skill and judgment. The cutting edges of artificial teeth, as received from the depot, are always rounded. This edge should be so ground as to give it a worn appearance. The smallest cut on the edge of each incisor and cuspid will vary the expression greatly, and give character to the teeth according to the slope given and the amount removed, rendering it difficult to recognize them as the same set of teeth.

It is sometimes advantageous to leave out a tooth on one side, say a first bicuspid, and bring the second bicuspid forward about half the width of the tooth removed, representing the loss of a tooth with the space partially closed up. Or a pleasing effect can sometimes be obtained by leaving out the second bicuspid tooth and inserting a gold crown in its place, and very natural effects be made by securing the teeth before they are baked at the depot, and carve and stain them, according to the case in hand.

Again, to restore the features it is sometimes necessary to imitate the irregularities of the natural teeth; and, as Dr. W. R. Hall has said, "This is a difficult feat to perform, seldom successful, as, when attempted, it is usually overdone, and without judgment. Crowding and overlapping gives a confused and bewildering look to the mouth, entirely contrary to the indications of most patients. Irregularities are more numerous in adults of the bilious temperament than any other, and more strongly marked, being in accordance with the rugged characteristics of this type, which is noted for its force, tumultuous passions, and energy of action; but even in this temperament the teeth must be placed and grouped together in such a way as to convey the idea of strength and energy, not a confused jumble."

As another has well said, "If we have not ideal teeth, the probabilities are there are many other things in feature and complexion which also are far from our highest conception; and the introduction of ideal teeth, where the surroundings are anything but artistic, is no improvement. It creates a discordant note, and destroys the harmony which prevails even in ugliness, and makes that ugliness more evident and unpleasant. But it requires a high conception of true art to thoroughly appreciate these principles and apply them in practice. It is, therefore, not surprising to find that distinguished dentists are the constant and appreciated friends of men of art and letters."

—G. W. Warren, in *International*.

AND NOW IT IS REPORTED that Dr. Crouse is going to "pitch" into the Dental Trade Association. I have a few bottles of red-hot indignation, left over from a protracted onslaught against this Association, which may be had on favorable terms. If the doctor really intends to do the herculean work suggested, it might be well for him to lay in a stock of these pyrotechnical goods. The gentleman, however, will pardon me if I suggest a postponement of operations in this line till after the dog days. The work the doctor proposes, to be effective, is exceedingly enervating, and a cool, crisp air will add much to his comfort during its performance.

E. PARMLY BROWN'S PORCELAIN BRIDGE- AND CROWN-WORK.

It is not a question as to whether a permanently attached denture to restore lost teeth is the proper thing or not. That has passed. The question now is, what kind of bridge and what kind of crown is the best for the case at hand?

The fact that most dentists are not inserting bridge dentures, is no proof that a large majority would not be practicing the art if they could.

The broad-minded practitioner diagnoses his cases and selects from a large assortment of methods the best treatment of each; the man of one idea always has gold for filling, or, if never gold, amalgam, or always gutta-percha, or always cements.

The same may be said of bridge- and crown-work.

The bridge-worker who always cuts off his pier teeth is circumscribed in his knowledge and usefulness in the art. Ten cases pass him by unattended to where he operates on one; lacking, as he does, the hardihood to attempt the destruction of good teeth for piers, or failing to get the consent of the patient to attempt such a rash proceeding. The reasons are obvious to bridge-workers; a few cases of denuding fairly good teeth of their enamel, with pulps alive, to make ready for their capping; or amputating such teeth for piers for bridges, satisfy the operator, and he shrinks from any more of that kind of work, which brings more curses than compliments from the patients.

The practice of inserting from one to four or five teeth into gold or amalgam filling attachments will broaden the field of usefulness of the operator.

To say that you have seen failures of fillings holding bridges in place for any great length of time, as an argument against the system, has the same weight as the assertion that you have seen fillings fail, as argument against the wisdom of filling teeth.

I recently extracted a very loose left upper central, from the mouth of a clergyman in New York, in the presence of another dentist, on account of root absorption, which the living central had attached to it and the living cuspid, anchored into gold fillings, a lateral incisor bridge, a porcelain gum plate tooth with soldered gold backing and cross-bar; this bridge had been in its place without repair for eighteen years, having been inserted in 1874 in Salt Lake City, by Dr. Calder.

With modern solid gold and improved gold alloy fillings, and most cases more favorable for good attachment than this presented,

who can longer have doubts of the great possibilities of the future in this line.

The fact that your essayist has inserted over a thousand bridges mostly by filling attachment, many of them having been in about eight years, and most of them being under his inspection, accounts for his faith in the practice.

The beginner who, with doubts and misgivings, fails in his attempts, does not prove that one cannot succeed who has become expert by years of study and practice.

Ten years experimenting with porcelain for crowns and bridges has made me a firmer believer than ever in porcelain for most cases; very often using gold crowns for single teeth or roots, or piers for bridges where not in sight; and once in a great while a gold bridge where indicated.

The improved porcelain bridge should rest firmly on the ridge, the surface in contact with which is constructed with a platino-iridium swaged plate, the cross bar and tooth or teeth being first soldered to the plate with pure gold as in continuous gum work; a moderate amount of tooth body first applied, and baked, then full contour obtained at the second baking, gum enamel to finish if necessary, at lower heat, at which baking any small crevices could be filled in with English body, which fuses at about same heat as American gum.

Soft platina caps for ends of roots, either for single crowns or bridge piers (as designed by me), where caps are indicated, made by fitting band, soldered with pure gold, and cut into slits as far as the end of the root, then this aggregation of points is burnished or pressed, one at a time, on to the end of the root, taking its exact form, however irregular; the pin is then pressed to its place, waxed, invested, and soldered with pure gold, unless a porcelain crown is being used with pins, then soldering is not imperative, baking without soldering being sufficient.

The porcelain denture when completed is as cleanly as the natural teeth. It is nearer to nature in form and appearance than any work I know of, and I am satisfied that in the near future, when the facilities for doing the work are to be had, and dentists become conversant with the art, that it will be a delight to patient and operator as well as a profit to both in every way.

The difficulty of the work will tend to increase fees; for that which is easy to do most anybody can do, without much study or effort, and therefore will be done cheaply.

If I could not have porcelain bridges I would be putting in good bridges made on swaged platino-iridium plates, fitting close to

gum or ridge, teeth backed with platina, caps made of platina bars of platino-iridium square wire, all soldered with pure gold, cap crowns made also of platina and pure gold flowed on them for appearance.

The contour of this structure to be restored as much as practicable to natural form. This would have some of the points of perfection of the porcelain work, lacking mainly an artistic appearance, lacking some in natural contour, some in strength, some in cleanliness, and much in economy of metal and labor. Six points of advantage claimed by the porcelain work over the metal work described, which has the advantage of the ordinary gold bridge that does not rest firmly on the gum, in several respects, principally in the additional support obtained by so resting.

These gold bridges I would insert as I do now the porcelain bridges, mainly with filling attachments, some cemented to root piers, and some to cap crowns.

The question of solid gold fillings to anchor bars, extending from bridges into cavities in pier teeth, is solved by using the Bonwill electric mallet with current from the Edison circuit if possible, if not a strong battery, or the next best force to thoroughly condense the gold.

The tooth to be braced at first by heavy retaining instrument held in left hand till the filling is anchored, then the tooth should be braced by an appliance devised by me, which I have used for several years, made of a bar of tin pointed and curved properly to hold against the tooth malleted on, held either by left hand of operator or by an assistant, which bar is suspended by cord and counterbalance from above, or can be held in hand only.

This metal bar takes nearly all the force used in condensing, and holds the tooth rigid to make the force applied more effective.

The necessity of solid gold fillings to anchor bridges, brings the operator up to a higher standard of well-anchored and solid gold fillings for all his work.

—Review.

“The Regulation of Teeth by Dr. Angle’s Method,” was the subject of a lecture by Dr. Robert Richter, before the seventh annual meeting of the German dental graduates of American colleges. The lecturer showed the advantages of this method over all others.

—*Journal fuer Zahnheilkunde.*

“Doctor, when do you think a man weighs most?” “When I ‘hold him up’ with my forceps.”

DENTAL GRADUATES OF 1892.

	Matriculates.	Graduates.
Vanderbilt University.....	126	68
Ohio College of Dental Surgery.....	143	89
Southern Medical College.....	98	57
University of California.....	97	24
Pennsylvania College Dental Surgery.....	207	103
The Northwestern University.....	56	18
New York College of Dentistry.....	273	86
Philadelphia Dental College.....	260	142
Kansas City Dental College.....	87	50
University of Maryland.....	127	74
Chicago College of Dental Surgery.....	303	128
Cincinnati College of Medicine and Surgery.....	34	10
Baltimore College of Dental Surgery.....	181	100
Columbian University.....	35	5
Royal College of Dental Surgeons.....	64	21
United States Dental College.....	57	14
Howard University.....	10	4
Missouri Dental College.....	77	33
University of Iowa.....	...	57
Western Dental College.....	79	38
Tennessee Medical College.....	48	8
University of California.....	98	24
Indiana Dental College.....	...	56
New York College of Dental Surgery.....	273	87
American College of Dental Surgery.....	...	66
Homeopathic Hospital College.....	15	6
Northwestern University.....	56	18

EDITOR ITEMS:—I have a patient with a gold filling in an upper molar crown cavity, that was put in by the late Dr. William H. Atkinson, while practicing in Meadville, Pa., in 1846. This filling appears to be in as good condition as when put in forty-six years ago. The gentleman is an attorney, and is sixty-nine years old, with all his teeth intact except the two upper wisdom, which have not erupted. The teeth are all free from caries, and the filling mentioned is the only one in his mouth.

I have also examined another old filling of gold, in the mouth Dr. Hugh Arters, a retired dentist, now residing in this city. This one was put in by Dr. William A. Ward, of Pittsburg, Pa., in 1835. It is in an upper molar crown cavity, and is apparently as good as new. Dr. Arters is in his eighty-fifth year.

These fillings, one forty-six, and the other fifty-seven years old, and both in living subjects, are, I think, among the oldest, if not the oldest on record. *Cyrus See, D.D.S., Meadville, Pa.*

COBWEB AS A STYPTIC.

When Bottom was "translated" and introduced to the attendants of Titania, he endeavored to ingratiate himself with Good Master Cobweb by saying, "When I cut my finger I will make bold with you." To arrest bleeding the application of a cobweb to the wound has long been a rural custom. Experience has shown that the gossamer of which the web is composed forms a very useful styptic; but a very fatal objection to its use arises from the fact that as an application to an open wound it can never be guaranteed to be surgically clean, forming, as it does, a net for insects, and at the same time for the germs of many an infectious disease. Evidence of this was produced before the Liverpool coroner recently, touching the death of Martha Roberts, who, following the time-honored custom, had applied a cobweb to her wounded hand to stop the bleeding. Blood poisoning followed on its application, and this terminated, unhappily, in a fatal issue. It is not a solitary case. The principles of asepticism have not yet become part of the intellectual equipment of the people, neither have its lessons succeeded in overcoming prejudice.—*Lancet*.

The Wilcox Bill, making a fine of \$10,000 on any one refusing to answer the questions of the Census Bureau, was passed in the House of Representatives on Saturday, June 4th, and will come before the Senate soon. In the census of 1890, the dentists were classed with manufacturers, and as such were presented with similar blanks to fill, which was objected to by the profession generally.

It is the purpose of the several committees appointed by the different State and Local Societies to proceed to Washington and protest against such classification. The undersigned request the President of each society, in his official capacity, and every individual dentist in the State, to write to Hon. Eugene Hale, the Chairman of the Committee on Census matters, protesting against the position in which the census authorities have placed our profession, and asking that we be excluded from the obligations and penalties of the Wilcox Bill.

If you will kindly address a letter to Hon. Eugene Hale, U. S. Senate, Washington, D. C., we will be obliged.

J. D. Thomas, L. Ashley Faught, A. W. Deane, Committee.

Odontological Society of Pennsylvania.

GOLD CROWNS.

Those who would put on a gold crown quickly and well may succeed by following these directions: Take a piece of thin wire (not too thin), and then, with a pair of pliers, twist it round the stump to be operated on, then slip it carefully off and paint it black; now take a piece of stick of some hard wood, something like a rivetting hammer handle, selecting the stick according to the size of the band you require; put it in the vise now while the paint is wet on your shaped wire ring, describing the exact shape of the stump; place it on the top of the stick you have in the vise, and give it one sharp blow with the flat end of a good-sized hammer; take away your wire; now shape your piece of wood carefully and accurately, as the dark mark guides you, till the whole of the dark line disappears; mind you are inside the line, but do not go too far; now make a ferrule of coin gold for the top of your stick, polish and finish on the stick, then take it off and try it on the stump, and you find it a little too small to go on; take a sand-paper disk, and with the engine rough it all round and make it fit on "slick;" this being done, place your ferrule again on the stick, and make another ferrule to fit over it, as you would proceed to make a lid to a box. Now you have a telescope joint. Take off your second ferrule, or collar, and fix on the stump with osteophosphate, having arranged your gold crown to the articulation with strong wax; remove it, and solder your second collar on the crown, and polish; fill your gold crown with copper stopping, and then, as a lid fits on a box, your patient bites the crown into its place, and remove it if you can. In fitting porcelain teeth for the front, in this way, the great trouble will be in getting the pin in the proper position. Drill out the nerve canal, proceed as before, when you have your first collar on, fit your pivot *in situ*, and cut a small piece of platinum gauze the shape of the collar, and drop it inside, touching the pin; force in some resin wax, and bring out the gauze adhering to the pin; now set it in plaster and powdered pumice, and flush some solder over to fix the pin, then a piece of gold plate; having made your second collar, solder the gauze now filled in with plate, and solder to collar No. 2; on this arrange your porcelain tooth in the mouth, and solder it to second collar; your first collar now being fitted to the stump, press it all into place with good cement. A gold crown will be the result that is strong, substantial and durable.

—A. King, in *Ohio Journal*.

The *Journal für Zahnheilkunde* reports a case of death during the narcose from pentol, the new anesthetic.

A TOOTH LONG BURIED.

At a recent meeting of the Odontological Society of Great Britain, Mr. Tomes showed some sections cut from a tooth picked up in a churchyard, which had presumably been buried for a number of years, and had ultimately found its way up to the surface. The chief interest attaching to it was that the dentine was, to a very large extent, tunneled by borings of uniform diameter, which could hardly be due to anything other than a fungus. Mr. Mummery had suggested that its manner of growth recalled that of some of the molds. In many places the borings followed two directions, more or less at right angles to one another, the one being along the dentinal tubes, which are greatly but uniformly enlarged by it, and the other along planes corresponding to those incremental layers along which disintegrating dentine so often breaks up. Where the dentinal tube was traversed, the enlarged portion passed abruptly into that which was unchanged, so that the idea of a mere chemical solvent creeping down the tube was negatived. And, although its usual course was along lines which might be regarded as those of least resistance, it was perfectly capable of drilling the dentine in any direction whatever, quite irrespective of the tubes or the lines of growth. This fact has a bearing upon the phenomena of caries. We are in the habit of supposing that the micro-organisms of caries do not do any direct work in softening and tunneling the dentine, but that they cause fermentation changes in mucus, food, or what not, and that the decalcifying acid is derived from these sources. Such may still be the right view, and, indeed, the borings exhibited do not bear any close resemblance to the phenomena of caries, but nevertheless these sections prove that a fungus can, unaided, or aided only by the decomposition of the organic material present in dentine, drill it freely in any direction.

Photographs of the sections taken by Mr. Mummery were thrown upon the screen, and the illustrations are printed from them.

The tooth had been found in the graveyard of a very old church in Warwickshire. There was Norman work in the church, so it was possible that the tooth was of great age. There was no caries, or at least there could be no question of the fungus having spread from it, for it (the fungus) was not found most abundantly where caries would occur, but in the roots of the tooth. The main interest of the specimen was, of course, that the tunneling or borings had occurred out of the mouth, and so out of the possible area of action of acids which were usually supposed to effect such decalcifications.

—*British Journal.*

THE CONTRACTION OF RUBBER PLATES.

The fact is well established that vulcanite contracts in cooling, and, in consequence, dental plates made up with section teeth almost invariably warp, and require more or less manipulation before a satisfactory fit is secured. In the case of upper plates, the change is quite apparent, the rear palatal portion being thrown up, causing the plate to rock. The arching up of this part of the plate is caused by the contraction of that portion immediately behind the teeth, the thin palatal part acting as a stay, and diminishing to some extent the amount of change experienced.

When, in repairing an upper plate, the center portion is sawed out, it will be found that its heels will spring together, certainly as much as the amount removed by the saw cut, and sometimes even more. This shows that the same action takes place with lower plates, and to a greater extent than with upper ones. As they leave the vulcanizer, full lower plates, with section teeth, are always sprung together at the heels, and are too narrow for the mouth. If they are re-vulcanized, they are thereby made still narrower, and are, therefore, in many cases, not capable of being worn with comfort. If they are heated sufficiently to soften the rubber and are then widened, the beneficial effect on the fit will be quite apparent.

—Dr. Snow, in *Practitioner and Advertiser*.

NEURALGIA.

For six months a lady, at frequent intervals, had terrible neuralgia of the shoulder, going down to the forearm. I asked her if her teeth had been examined, and she said that they had never been suspected by her physician as the cause of the trouble. I found under the free margin of the gum, on the buccal side of the wisdom-tooth, a cavity that penetrated to the pulp chamber. It was such a difficult place to get at, and she had suffered so long, I advised her to have it out, and after the extraction of the tooth the neuralgia disappeared from the shoulder.

I have seen other cases of neuralgia where, apparently, a very slight thing caused it all. I remember one case of a patient suffering with intense neuralgia, where there was no cavities in the teeth, except what had been well filled, but there was a noticeable recession of the gums, which I decided was the cause, from their hypersensitiveness. The exposed parts of the teeth were treated with a little nitrate of silver, which removed the sensitiveness and also the neuralgia.

—Dr. Smith, in *International*.

THE ODONTOBLASTS.

I cannot but think that the odontoblast is a rather hardly used cell; it has not only had to persist during the whole active life of the tooth, but has had to form the soft fibril, the investing tubule, and the matrix of dentine, and, in addition to all this, is considered by many to act as a nerve-ending cell, and conduct sensation to the dentine. This latter function is hardly, I think, consistent with its other offices, and with what we know of the action of cells in other parts of the body. This anomaly struck Mr. Hopewell Smith, in a paper on development, to which I have referred elsewhere, and he would rather consider the function of the odontoblast to be wholly sensory, the cell really being a nerve-end organ, and compared by him to the ganglion cells of the spinal cord, other cells than the odontoblasts being concerned in the formation of dentine. In this case, however, one would expect to find very considerable nerve filaments entering the odontoblasts, and it is also remarkable that in old teeth, the odontoblast layer appears to be absent. Professor Kölliker considers the growth of dentine to be partly by conversion and partly by secretion, and that while the central part of the cell persists as the fibril and tubule, the matrix is a secretion from the odontoblasts and other cells of the pulp. Baume holds that the calcification of the dentine takes place in a material secreted by the odontoblasts.

—Howard Mumery, in *British Journal*.

THE YOUNG MAN OF MEDIUM ABILITY.

True worth is always found in company with modesty, and self-satisfaction is a sure impediment to mental improvement. One who recognizes that nature has not been so liberal in the bestowal of her favors on him as she had been with some of his fellows, is the one that should persevere the most. How often we hear fathers say to their sons: "Do not go into any profession unless you can rise to the very top of that profession." Why teach a boy of mediocre talent to feel disgraced if he does not come to be prominent in his calling. He will come to know that such a position is not to be gained by him, and discouragement and discontent follow, which make his life a failure. Better by far find out the work or profession to which a youth seems most adapted, and put him at that as being the work he can do best, and, therefore, the only thing for him to do, even though it may not be said of him: He is superior to all others.

Having found the field in which the work he can do best will result in the greatest good, he is to be convinced that nothing but untiring labor will bring out the best fruits of that field. He is to be taught, too, that, when his best efforts are spent with good result, he has ennobled his work. If his best efforts fail, then he has made a mistake in the choice of his field of labor, and must seek an humbler work where the requirements are commensurate with his powers, or, perhaps, one in which he may excel.

—*Theo. Stanley, Western.*

MAKING A NAME.

"How shall I make a name in my chosen vocation?" is the cry that goes up from the crowd of young men who are standing in front of the lower rounds of the ladder; they are told that there is plenty of room at the top, but how to get there is the ever-living question.

First, as a member of a profession, what does the fact of our holding a diploma from a reputable college signify? Rev. Edward Everett Hale answers: "Every diploma given in a liberal profession contains three pledges, which those who receive them bind themselves to maintain in accepting—a pledge to learn for all, a pledge to practice for all, and a pledge to teach freely to all. The obligation to learn and teach brings to the front the position of doctor or teacher."

We cannot have a grander title, and it is he who wears his title best, who fulfils to the highest degree the professional idea, does credit to himself, his profession and his alma mater, that rises the highest and makes the best name.

College education is but the frame work of the house. It remains for us, by careful study, close observation and increasing skill, to complete and adorn the edifice. The possession of knowledge, and the power to apply it, are very different; our greatest orators, and most fluent debaters in societies are by no means always the best or most successful practitioners.

For one whose career is just beginning there is no better motto than, "Perseverance and strict integrity in all things." Careless, unprofessional habits should be cured.

In all our work, from the simplest to the most difficult and intricate operation, it is important to have before us our ideal; we should have in our mind's eye the different points to be accomplished, and each progressive stage. Our ideals should be real and practical. Should you, with increasing practice, grow conscious of

any superior aptitude or skill, or above your neighboring practitioner in any essential quality, talent or experience, be not boastful or intrusive; rest assured your work will stand as a living monument to your skill.

Avoid a multiplicity of callings; to use a familiar term, don't have too many irons in the fire. It is true after you have established yourself, it is wise to have some diversion; but a man who is part dentist, part politician, and part sportsman is not appreciated by the public. Look around you and see how many such fail in their legitimate business.

Failure comes, too, to those who lack earnestness and continued endeavor, and to those who are constantly moving from one locality to another, or who are changing from one pursuit to another; being "Jack of all trades" is usually master of none.

—G. W. Warren, *Review*.

PYEMIA FROM ABSCESS.

A few years since there happened a case, in the upper part of Philadelphia, of the death of a patient under the care of a physician, where the cause of death was assumed to be tonsillitis, but it was found, as the result of the autopsy, that the death was due to the occurrence of abscess of the inferior wisdom tooth, the result of which was the infiltration of tissues at the base of the tongue. The pus had burrowed along the course of the muscles, and had very freely infiltrated the tissues and the hyoid bone with pus. The patient died of pyemia.

In my experience a case occurred of a prominent clergyman who came to me with inflammation of a lower wisdom tooth, and it had a very unpleasant appearance, and was already threatening, as I thought, to burrow along the mylo-hyoid. I said to him, "This tooth should be removed;" but he was a man of determined disposition, and said he would not have it out. In the course of a few days his physician sent for me and wished me to visit the patient. When I arrived at the patient's house, I found extreme evidence that there was infiltration of pus. I said that the tooth should be removed at once. The response was that the condition of the patient was such that it would be dangerous to health and life to attempt it under the circumstances. My response was, that if the tooth was not quickly extracted, the most disastrous consequences might ensue. The tooth was removed, and the patient was confined to his bed for some six weeks. The physician treated him for a condition similar to pyemia.

—Dr. Jack, in *International*.

Our Translations.

ANOTHER CASE OF ACTINOMYCES—INFECTION THOUGH CARIOUS TEETH.

The case was that of a young man of twenty, who suffered for a year of a fistula in the left side of the submaxillar, on the line between mentum and angulus. Both the macro- and microscopical observations proved actinomycose. Still, on regular and scrupulous examination of the second molar corresponding to that region, which was had, after its extraction, only high graded tooth caries and pulp decay were found, with a slight swelling without a fresh loosening of the root skin, but not the slightest indication, either in the tooth or its environment, of any actinomycotic traces. It is to be observed, however, that this tooth showed, three or four years before, periodontitis with swelling, which disappeared then without any medical treatment, in a few weeks. Since then the patient felt nothing in that region for more than two years, till about a year ago, when it was cured by the antinomycotic treatment, by Dr. G. Bartha.

—*Odontoskop.*

THE NEWEST DISINFECTANTS FOR ROOT CANALS. DR. ALL. BANDMANN, OF BERLIN.

Extract from a lecture before the "American Dental Club, of Berlin."

As you are aware the aniline coloring substances have been repeatedly and successfully used in medicine as disinfectants for about two years. I have used two of these substances in my practice for several months, and have found them successful.

The coloring matters, of which I shall treat, are pyoctanin and methylen-blue, especially in their nature as antiseptics. I have used them in three different applications, *viz.*, first, fistula; second, decayed pulp; and third, alveolar necrose. I have first employed the pyoctanin, but then turned to methylen-blue, for I have achieved with the latter far quicker results.

In fistula, I have used the following method: After having secured a good, wide entrance to the root canal, I have injected, by means of a syringe, a drop of methylen-blue, having before surrounded the tooth with cotton rolls, for the methylen-blue colors

very intensely, and then tightly closed the cavity with a large cotton stopper.

For decayed pulp, I have used the methylen-blue as a disinfectant, by dropping cotton in a solution of methylen-blue, and introducing it into the canal by means of a probe, then closing, as above. Lately, I have dipped the cotton also in methylen-blue powder. By severe beating, all those particles of powder that have not become damp, fall away, and then I introduce the cotton. In this way, I have removed from the canal every odor in a considerably shorter time.

For the alveolar necrose, I have first used methylen-blue, after removing the sequestrum and scrubbing away the disease germs. I was surprised to see in what short time the wound healed; but I am convinced that the alveolar necrose can be treated safely and rapidly from the very first stage with methylen-blue.

—*Journal für Zahnheilkunde.*

THE INDIA-RUBBER TREE.

The India-rubber tree cannot stand shade, and unless the seedlings are fully exposed to light and well drained, they cannot grow. Owing to this it is found that in the depths of the forest, where light and air are shut out by the dense crowd of trees of many species, natural reproduction takes place by the germination of seeds carried by birds high up in the crowns of other trees, aerial roots descending in process of time to the ground, and developing into a huge hollow cylinder round the foster stem, which is soon killed. The descent of the roots may take years, but once they have taken hold of the ground, the further growth is exceedingly rapid. In cultivating, the seeds are found to grow much better than cuttings, and these are tended in large nurseries till they are ten feet high, when they are transplanted into clearings made in the forest, in strips of forty feet wide, alternating with sixty feet of natural forest, this being found necessary to furnish the necessary moisture, while narrower clearings do not give air and light enough. Trees grown in grass land were found on tapping to yield scarcely any rubber, the difference being attributed to absence of the moisture afforded by the forest. Plants of 1874-75 were found, in April, 1889, to have attained an average height of sixty-one feet eleven inches and a girth of eleven feet five inches, thus having grown at the very rapid rate of six feet one inch in height and nine inches in girth per year.

—*Demerara Argosy.*

AN "AMERICAN DENTAL CLUB" FORMED IN BERLIN.

Though there existed in Berlin several dental societies, the oldest of which was founded in 1874, none of them proved a great attraction. Most of them have been losing members, or have altogether given up their existence. The cause with some lay in the fact that, though formed ostensibly for professional purposes, they have drifted away from the discussion of professional subjects, and, by bringing up others, which were often discussed in a passionate and partisan manner, they have alienated the best and more quiet members, and finally lost them altogether. There was nothing to create a warm, friendly feeling that binds individuals to large bodies, and urges them to sacrifice for the useful enjoyment.

German dental practitioners who have learned and enjoyed the American college spirit and life, have been stirred up lately by a desire to form such a society that would unite a large body of their professional brethren having had a similar experience, for professional and social purposes. They have, therefore, formed the "American Dental Club," and, at their meeting held on February 10th, 1892, have adopted a constitution and by-laws.

The *Journal fuer Zahnheilkunde*, from which we take the above item, says: "We greet this dental club, founded on international collegial friendship, as a forum where the free science of all nations will find a welcome with the true collegial spirit. By it a beginning is made in Berlin to keep away from all forms of partisan strife and to create college-union."

STONE FORMATION AT THE OUTLET OF THE GLAND CANAL OF THE TONGUE.

On the occasion of my description of a case of nasal stone (rino-lith) in the *Orvosi Hetilap*, in 1886, I have already spoken about inorganic bodies which settle in the human organs. The above case was the first observed and operated by me. Most of the stones are found in ductus Whartonianus, and very rarely in the gland itself. According to Czygan and Scheff, there were found twenty-two cases of stone formation in ductus Whartonianus, four in ductus Stenonianus, five in ductus Riwiniani, one in ductus Bartholinianus, and only four cases in the lower jaw gland and one in the cheek gland.

The stones consist mostly of phosphoric and carbolic acid lime. The original cause in most cases is a strange body in the canal, around which settle the lime salts, etc., as it has been observed in the nasal stones. Years ago, a patient came to me who had, at the outlet of the canal of the cheek gland, the husk end of an oat grain, around which a stone was formed the size of an oat, which irritated the patient continually, and which I removed with the forceps. I am sorry I have lost the stone.

The more recent case observed is as follows: Marie Dör, a cook, thirty-six years old, appeared at my office June 13th, 1890. She complained that her tongue commenced to hurt five days before, when she attempted to swallow; that a swelling soon formed under the tongue, which grew rapidly, and at the time of her appearance, had already reached the size of the fist. The status was as follows: the right submaxillary region is swollen, hard and painful on pressure. The part under the tongue has a serous swelling, which spreads over the ridge of the tongue to the left side. The submaxillary gland is enlarged and lifts the tongue. The speaking and swallowing is greatly obstructed. The connecting web under the tongue is saturated with serous matter. The right opening of the gland is closed; from the opening protrudes a yellow-brown grain the size of a needle-head, which, after an examination with probe and fingers, proves to be a stone. With a dull-end tear-canal extender, the Wharton canal was widened to one and a half centimeters, and I removed the stone very easily by a small pressure on the lower jaw part. The wound was treated with a 2 per cent. solution of carbol glycerine, and in six days probed with a fine probe, when the swelling disappeared, and the patient discharged as cured.

With what little irritation the formation of the stone proceeds, and how it escapes the attention of the patient, is proven also in the above case. The patient knew of her suffering only on the 6th of June, when she had difficulty in speaking and swallowing. The stone is eighteen millimeters long, seven millimeters wide, perfectly dry, weighing, after two years, one-half grain, a little thicker toward the end, and provided with a groove corresponding to the outlet of the opening, by which it resembles a coffee bean. As far as I know, this is the first tongue-gland canal stone observed and operated on in Hungary. The patient has, so I have lately learned, no trouble from the gland, neither does a new stone settle.

As I wish to preserve the stone, I cannot analyze it chemically. Probably it also does not contain any rhodan, as all the stones examined till now.

—Dr. K. Morelli, in *Odontoskop*.

Items.

The dentist who has so far succeeded in educating his community up to the necessity of caring for and preserving the natural teeth, is deserving of a crown—not a porcelain crown, nor a porcelain-faced crown—but a crown of gold surmounted with points, and each point set with a diamond of rarest beauty.

J. W. Cormany.

To clarify wax, melt in hot-water bath; then remove from water bath and bring to a slow boil on the stove. Into the boiling wax break a fresh egg, and stir three or four minutes till the egg is thoroughly cooked. Strain through a piece of cheese cloth, to remove all pieces of egg, and you will have your wax as clean and pure as when brought from the dental depot.

J. E. Harvey, Freeport, Me.

I know one person in my former home who was financially almost a failure, simply from the condition of his office. It was talked of among his patients and among the dentists. I think it very necessary for all dentists to practice neatness in their office, and to be thorough in their work; if they neglect these essential points, they will be a financial failure.

Dr. Carpenter.

Dentistry relies more on common sense views and practice than any other profession. The physician never knows whether his medicine or nature has done the work. The lawyer says there never was a law made that could not be evaded. But the dentist's work, like the poor, is ever present with us. We can see our work that has been done years ago, and know the why and wherefore if we will.

Dr. D. V. Beacock.

I wash amalgam in bicarbonate of soda (common baking soda), after mixing with mercury, and by this means clean it and prevent it becoming discolored. I can show amalgam fillings I inserted twenty, thirty, and more than forty years ago, which are still good. In many frail teeth gold is the worst filling that can be used. I have filled frail wisdom teeth many times to the best of my ability, and have failed every time, but when I filled with amalgam they succeeded, and they are there to-day.

Dr. Dwinelle.

When I was a little boy, about six or seven years old, I had a tooth extracted. The doctor wanted to pull it out, but I never liked to be hurt, and, of course, objected. But on the promise of the doctor that he would not pull it, but just look at it, I allowed him to put the pullers on to see if they would fit. He pulled the tooth out, and I always took it for granted after that that all dentists were liars, and believed it for twenty years. I did not think a man could be a dentist and be a truthful and decent man.

Dr. Mathews.

It has been the custom of dentists to recommend and give phosphate of lime and phosphate food in general, with the idea of supplying that which was wanting—the lime salts in the teeth. You may pack such children in a lime barrel; you can feed them lime stew and lime hash without effect, for their teeth will not take up a particle more. The lime has to be introduced through the proper channels and in proper form. The digestive department is just as full of red tape as that of any Government. All its supplies have to go in a regulated course, without which they are not accepted.

Prof. Mayr.

Dr. Crouse's method of treating alveolar abscess is as follows: Prepare your cavity; it is not necessary to give the details, except that care must be taken not to force the broach into the pulp canal, or get the cavity clogged with foreign matter; take a piece of soft India-rubber, cut it as near the size and shape of the cavity as you can; fill the cavity with carbolic acid, place the India-rubber into the cavity, and with it force the carbolic acid out through the fistulous opening. This is readily done with a blunt instrument and sudden force against the rubber, such force as is used in packing gold by hand pressure. In my hands this has been the most effectual way of accomplishing the treatment. One such treatment is generally sufficient.

After twenty years spent in the practice of dentistry, I have reached this conclusion; that there is nothing too good for the dentist in his profession, socially or spiritually. He is entitled to the best of everything, the best appliances suited to his skill, and his machinery should be run with power outside, and with brains inside, himself. If there is water power in his city, he should use water motors; if no water, use electricity; if no water or electricity, hire some one to mallet and run his engine for him. What

is fifty or one hundred dollars properly invested in the best dental appliances compared with the convenience of having machinery that will go by simply pointing the finger at it? The dentist has enough worry and vexation of spirit without being deprived of the many improvements that money will buy. I am almost willing to guarantee that within six months after one hundred dollars has been paid out for this labor-saving machinery, enough extra work will have been secured to more than pay for this expenditure.

—J. W. Corman, in *Reviews*.

EDITOR ITEMS:—A peculiar case was presented to my notice during the past week. I suppose suspended development would be the proper name for it.

Mr. N.; aged thirty-eight; occupation, farmer; erupted all of his permanent teeth at the usual time, except the four upper incisors. The temporary incisors were in place and in perfect condition—no absorption of roots—well spaced. The interesting part of this case is: The permanent centrals are just through the gums, perhaps one-sixteenth of an inch. The laterals are just ready to come through; their crowns can be readily seen and traced with the finger. The patient has suffered considerable pain in that region for the past three months. After extracting the temporary incisors immediate relief was given. Comments are in order. Will report farther some time in the future. R. C. McManis.

Itching in scarlet fevers is not always agreeable, but it has never been supposed to be a favorable sign, yet St. Phillippe (*Rev. Mens. des Mal. de Lienf.*, February, 1890), according to A. F. C., in *Archiv., Ped.*, in a paper presents the following conclusions:

1. Scarlatina is a disease which is often accompanied by itching.
2. This variety usually has a favorable prognosis.
3. The itching is due to the fact that the eruption is not intense, and the cutaneous lesions not very profound.

The best application for the relief of this itching, or almost any other, for that matter, is the following:

R.—Campho-phenique..... ʒss.
 Albolene unguent..... ʒiss.

M.—Sig. Apply night and morning.

Another advantage is, that it is in the direction of personal disinfection.

Monthly Gossip.

DR. WM. E. BLAKENEY.

CAN ANY ONE inform me of a cement which will not disintegrate in oral secretions?

DECAY OF TEETH, while differing slightly from caries of bone, is essentially a similar process.

VERMONT DENTISTS contribute largely to the make-up of the *Ohio Dental Journal*, for July. Their contributions repay perusal.

IT WAS BEACONSFIELD, I think, who said: "The great secret of success in life is to be ready when your opportunity comes."

DR. ELEAZER PARMLEY says that the first gold filling he ever saw was in 1815, and it was put in by Dr. Wait, of London, England.

TO DISSOLVE COCAINE, Squibbs recommends the use of half of one per cent. solution of boric acid; this amount being needed to prevent decomposition.

THE QUALITY OF PEROXIDE OF HYDROGEN has everything to do with its efficacy. It should be kept in a cool place, as the extra equivalent of oxygen is readily dissociated at 65° F.

AN EXCHANGE says: "The fact is proven beyond a doubt, that one-third of our time should be spent in sleep—quiet, restful, natural, refreshing sleep." There are tens of thousands who cannot enjoy this healthful luxury, however much they desire to do so.

DR. G. F. CHENEY says that too much thought and care cannot be given to the protection of the pulp in early life—the possibility of its occupying an abnormal position, the chances of there being a crack or fissure extending to it, and of a point of it coming nearly to the surface.

WHEN THE PULP IS DESTROYED by arsenic or any other corrosive agent, and is removed, Dr. Ingersoll says there are some two hundred and fifty thousand dental or dentinal fibers, or nerve fibers, that still remain in the dentine. The question, therefore, is, what treatment to apply, to antisepticise these fibrils?

DR. W. H. WRIGHT thinks it would be a good idea "to have a dental student, when he receives his diploma, undergo one trial of inhaling gas, to experience the pleasure of having a tooth extracted with a piece of jaw-bone attached, and to have his most sensitive tooth bored out and filled with all the punches and scrapers which are thrown in by this operation."

"THE FOREMOST WRITERS on antiseptics," says Dr. Forest G. Eddy, "now advocate abolishing, as far as possible, all escharotics and coagulants in the treatment of septic conditions of root canals. No antiseptic," he continues, "in use by the dentist, answers so well as peroxide of hydrogen and the essential oils. They are non-escharotic, non-toxic, yet antiseptic and stimulant. The manner of their use is simple and positive."

"SYPHILIS," says C. G. Darling, M.D., "is an infectious, constitutional disease, probably due to a micro-organism which enters the system by the blood and lymphatics, pursuing a chronic course. It comes commonly," he says, "by cohabitation, while mouth-to-mouth infection, the result of kissing, is more frequent than would be supposed." Well, as kissing is a fixed institution, some enamel coating for the lips becomes in order.

DR. W. H. WHISTLAR believes that "deviations which are far from our calling, such as politics and partisan movements, will not aid practice." This may be true; but, to my mind, the sentiment doesn't have a patriotic ring. Politics and partisan movements have so much to do with the moral and physical development of the country, that the man who voluntarily ignores them is sadly lacking in an appreciation of the essential elements in national greatness.

"CARIES is an effect," says Tomes, "of external causes in which vital forces play no part. It is due to the solvent action of acids which have generated by fermentation going on in the mouth, the buccal mucus probably having no small share in the matter; and when once the disintegrating process is established at some congenitally defective point, the accumulations of food and secretions in the cavity will intensify the mischief of furnishing fresh supplies of acid."

DR. L. E. CUSTER, of Dayton, Ohio, read a paper at the annual meeting of the Seventh District Dental Society of that State, entitled "The Influence of Tobacco on the Teeth of Tobacco Chewers," which elicited quite a spirited discussion. It was the general opinion that the teeth of tobacco chewers suffered by mechanical abrasion more than the teeth of the non-users of the weed." I would like to know what effect tobacco has on micro-organisms of the mouth.

DR. ALLEN says that "it may be accepted as an axiom that structures which are associated anatomically, are associated clinically, also; that a portion of the mucous membrane found within the head is a natural anatomical division of this membrane. There-

fore, its several parts form a system." This system the doctor denominates the "cephalic mucous membrane," and, in his opinion, the clinical condition associated with it can be best interpreted by remembering the normal uses to which it is habitually put.

"IT REQUIRES," says Dr. F. W. Sage in the *Dental Register*, "a degree of moral courage, which, perhaps, few possess, boldly to announce in advance of what promises to be a paying operation, that it will probably fail, utterly, in three, five, or ten years." Few operations, skillfully performed, costly though they be, can be regarded as failures, which have preserved neglected teeth five or ten years longer than they would have lasted without such operations. The dentist should not be held responsible for the neglect of patients; and when this negligence is expensive and at the sacrifice of health and comfort, the sufferer is apt to gain valuable experience by his delinquency.

DR. HUGENSCHMIDT (*La Semaine Médicale*) says that the characteristic symptoms of acute pulpitis are intense neuralgic pain in the region supplied by the fifth nerve, the point of the maximum intensity being at the root of the affected tooth, which is the seat of the disease. The proper treatment is to wash the cavity carefully by means of a stream of warm water injected from a small syringe, using also, if necessary, a stilette with a little cotton wrapped about the end of it. After the cavity has been thoroughly emptied, cotton should be placed in the cavity, after having been saturated with either the following solutions: Menthol, 18 grs., chloroform, 30 grs.; or, hydrochlorate of cocaine and hydrochlorate of morphine, each 4 grs., and creosote sufficient to make a paste of the consistency of cream.

DR. D. V. BEACOCK'S "Dental Dots," in the *Dominion Dental Journal*, are always interesting and instructive. In speaking of the use to which copper amalgam may be advantageously put, he says: "Copper amalgam is very useful for many things in dentistry, besides filling teeth. It may be used for fastening a tooth on a rubber plate, making a full crown for back molars, making matrices for striking up a gold cusp or articulating surface for a gold crown, strengthening or reinforcing plaster models, cusps or any part of the gums or root of a tooth, or a whole tooth may be readily built up in the impression before running the plaster into it. This is often very useful when it is necessary to fit a gold or platinum band round a tooth or root, as the amalgam tooth is quite hard enough to burnish on, while the plaster tooth is frail and would be broken. The amalgam can all be saved and used over and over again."

Our Question Box.

WITH REPLIES FROM OUR BEST AUTHORITIES ON DENTISTRY.

[Address all questions for this department to DR. E. N. FRANCIS, Uvalde, Texas.]

Question 33. *In filling a root, opening into the antrum, if a small cone of gutta-percha be forced through, would it cause serious trouble?*

No.

W. D. Tickner, Randolph, Wis.

I would not anticipate trouble.

Townsend H. Jacobs, D.D.S., St. Paul, Minn.

If the foramen has not been enlarged, I think a cone of gutta-percha, so small, will hardly cause trouble.

Wm. H. Cooke, Denton, Texas.

Do not think a small cone of gutta-percha in the antrum would cause trouble, it being a non-irritant.

A. F. Davenport, Adams, Mass.

Am not sure, but assume it would be impossible for it to cause trouble.

E. Farnly Brown, New York City.

Have no experience, but think, in all probability, it would bring on inflammation of antrum, being a foreign body.

John S. Engs, Portland, Oregon.

I do not think a small cone of gutta-percha could cause any trouble, except it be directly in or in front of the orifice leading to the nose, retarding the exit of excretions.

A. W. Davisson, D.D.S., Holly, N. Y.

I am of opinion there would be serious danger of trouble, for the antrum, being lined with a delicate mucous membrane, would be irritated at least, and would be liable to develop inflammation and suppuration.

A. H. Lee, D.D.S., M.D., Washington, D. C.

A root opening into the antrum should never be filled, but taken out. Should an attempt be made, however, to fill the canal of such a root, and a piece of gutta-percha be forced through (into the antrum), it would undoubtedly augment the trouble. Allow me to remark: A root of a tooth penetrating the floor of the antrum, diseased, so as to allow of the forcing of any substance through it into the cavity, should be at once removed; any attempt to keep it in will result in great trouble and excessive loss of tissue.

Frank Abbott, New York College of Dentistry.

In filling root, properly prepared, with gutta-percha points, if the canal is thoroughly dried, a fine broach selected, dipped in a thin solution of gutta-percha and chloroform, a few fibers of absorbent cotton twisted on the broach while moist, and then saturated with this solution, carefully pumped into the root till the walls of the canal are covered, it will adhere very tightly, and if modestly warmed cones are used, there will be little danger of the cone being forced through, as the cone and the gutta-percha lining on the walls unite. If the apical foramen is very large through absorption or other cause, gutta-percha would hardly be sufficiently irritating to cause serious trouble.

L. A. Brown, Leesburg, Va.

In filling any canal, I guard against accidents of this kind by gauging the length of root. Cases are on record where the attempt was made to fill apical foramen with a lead cone, and the entire cone forced through into the antrum. After waiting to see that no trouble followed, the root was filled with a larger cone and filling successfully finished. No trouble followed. There is, undoubtedly, less likelihood of trouble from an encysted lead cone than one of gutta-percha; at any rate, I would like to remove it rather than run the chances.

J. H. Grant, D.D.S., Palestine, Texas.

Question 34. *A boy of twelve years has all his permanent teeth but third molars. Each tooth has a dirty brown color, and all are without enamel. The surface is soft; crowns wasting away; tartar deposits have inflamed the gums, and teeth are sensitive to thermal changes. What is the cause, and what treatment is suggested?*

I doubt if any permanent good will result from conservative treatment; would advise extraction and the making of an entire artificial denture.

W. D. Tickner.

Should want to know more of the history of the boy, to diagnose the case. Possibly it is a case of syphilis, or he may have had scarlet fever or measles at the time the teeth were being erupted.

Townsend H. Jacobs, D.D.S.

Have never seen such a case. There must have been some constitutional dyscrasia which prevented the enamel organ from performing its function. Remove all deposits from the teeth, and adjust a hollow gold crown to every tooth so affected.

Wm. H. Cooke.

A very extreme case; an hereditary taint aggravated by a long spell of illness in childhood. The patient was probably in delicate health from infancy to seven or eight years of age. I would repair, where indicated, with suitable fillings; crown some—if best; remove tartar, and recommend the use, five times a day, of medicated tooth-powder.

E. Parnly Brown.

The cause of the condition in this boy's mouth is the destruction entirely, or impairment to a great extent, of the enamel organ functions, while the teeth were developing, so that no enamel, or a slight apology for it, was the result. These conditions are brought about by diseases which have severe local manifestations in the oral cavity. The treatment is the use of a wash composed of soda bicarb. 3j, water 3vij, flavored with any substance agreeable, which does not impair the effects of the alkali. This should be increased in strength a little every two or three days, until it is twice as strong as the above. It should be used three or four times a day, and the teeth ground and polished as soon as the patient can stand it. If this treatment is persisted in, those teeth may be made of considerable service for many years.

Frank Abbott.

I should say the cause was a very low condition of vitality, when the teeth were developing. Keep the teeth absolutely clean and all cavities filled with soft fillings. Use a soft brush several times daily with water; also, floss silk should be freely used. By this treatment, nature will harden the teeth, so that most of them can be saved.

A. F. Davenport.

I think the cause is constitutional. I would like to know something of the family history before giving an opinion. As to treatment, I would advise removal of all tartar; pencil the gums with nitrate of silver or carbolic acid; use astringent mouth washes; put the patient under constitutional treatment, giving cod-liver oil and syrup of hypophosphites, good nutritive diet; in fact, everything calculated to improve the general health.

A. H. Lee, D.D.S., M.D.

I have yet to see a case where all or any considerable number were devoid of enamel, but if this is the condition, I am inclined to think the crowns had better be excised and porcelain crowns substituted. If the natural organs be of sufficient strength, gold crowns might be of service for many years. On removal of tartar, the gums will probably return to their normal condition.

A. W. Davisson, D.D.S.

Constitutional derangement of dentition during intra-uterine existence, improper nutrition, etc.

Remove all deposits, restore gums to health by suitable astringents, polish exposed surfaces of teeth, and for sensitive dentine use mild obtundents, nitrate of silver and suitable mouth wash.

L. A. Brown.

Remove all foreign substance from around the teeth thoroughly. The patient should rinse the mouth daily with lime water for a few days; then, if the teeth are strong enough to fill, after the usual mode of treatment, to obtund all sensitiveness, proceed to fill with the best material suitable. If the teeth are not strong enough to support fillings, crown them. I never extract unless compelled to, and in this case—age considered—you do a great wrong if proper means are not taken to save the teeth, if only for a year or two.

J. H. Grant, D.D.S.

This description is not sufficiently definite. It may have resulted from inherited syphilis, excessive use of mercury during infancy, arrested development prior to the eruption of the teeth, or necrosis of the alveolar.

The accumulation of tartar should first be carefully removed; after that the gums should be for a few days treated with an application of peroxide of hydrogen. If the teeth are firm in their sockets this will suffice for the gums; if loose, and pus is present, I would extract all and make an artificial substitute. If firm, apply dam, dry teeth and apply nitrate of silver solution or the solid caustic after destroying sensitiveness; remove softened dentine, fit gold crowns to posterior teeth. If there is not sufficient of the anterior teeth left to fill, excise them and fit porcelain crowns to roots.

John S. Engs.

The cause is probably inherited, for the reason that the majority of the teeth are involved, showing it must be inter-uterine. It could hardly be assigned to causes brought on by disease after birth.

First carefully remove tartar and brush the gums with any good dentifrice till friction excites the tissues, thus developing a healthy condition. The next step would be to restore the denuded parts of the teeth with artificial clothing—practically bringing back artificially those parts nature has failed to provide.

Gold caps for the posterior teeth and platina sockets having a coat of porcelain enamel and veneer fused to them, for all anterior teeth.

This art I have practiced for upwards of seven years, and can show specimens of work inserted in 1885, apparently in as good order as when completed—preserving the pulps in their normal condition.

A description of this work can be found in the *Independent Practitioner* of August, 1886, since which time the records of my ledger will show over one thousand operations, the durability of which has been remarkable. In the whole seven years of this practice I have been unable to find a single instance of the loss by decay of any tooth structure. Reference is made to an article by Dr. W. A. Capon, in *Dental Cosmos*, April, 1891.

C. H. Land, Detroit, Mich.

Question 35. *What is the experience of those using the Parker-Stoddard gas furnace, and what is the best tooth body to use with it?*

I have seen the furnace do good work. A. W. Davisson, D.D.S.

This furnace is very good for small cases. Teas' body is very fine. Care must be used to prevent gassing the work. Any gas furnace is risky on this account.

E. Parmly Brown.

Have had no experience with it myself; but, to my mind, the work done with it in one of the eastern colleges, where it has been in use for some time, is not so good as that done with the muffle furnace, burning coke or coal. The Parker bodies and enamels are recommended.

John S. Engs.

In 1878 I thoroughly demonstrated that the fusing of porcelain either in the open flame with a blow-pipe, or in the combustion chamber of a gas furnace, could not be a success for the following reasons:

A percentage of carbonic oxide, also free carbon and hydro-carbon, is always present, and when brought in contact with porcelain at high degree of heat, will invariably produce a detrimental effect, especially on the coloring matter in the porcelain; and, as the so-called Parker-Stoddard furnace consists practically in the crude form of a fire-pot, it can be no better than any ordinary crucible furnace, where the force of the blast will—in addition to the detrimental effects of gases—drive small particles of fire-brick and other foreign bodies into the glazed surface of the porcelain when at high degree of heat, adding still another serious objection to such poor appliances. For detailed description of the technics of successfully burning porcelain with hydro-carbon or gaseous fuels, see July number of *ITEMS*, 1891.

The question of bodies and enamels in connection with the furnace, is somewhat vague, as no statement is made to any particular class of work. In the application of porcelain as a substitute for lost portions of the dental organs, among those who have become experienced, they recognize the products that years of use have proved to be reliable.

For continuous gum work, Dr. John Allen's and those of S. L. Close have become the standard, and those for all porcelain dentures, bodies as prepared by S. S. White Dental Manufacturing Company. For the Land system of porcelain inlays, crowns and bridge-work—bodies and enamels that should fuse at several hundred degrees less heat than those composing the structure of all artificial teeth, so the heat to fuse them will not injure the color already established in manufactured teeth.

C. H. Land.

Question 36. *What can be used to disguise the smell of ether for art purposes?*

READER OF ITEMS.

This is out of our line. We know of nothing to disguise the odor, that will not change the chemical properties. If the ether is merely to be used as a dissolvent, other chemicals can be substituted—the cost being somewhat in their favor. We refer you to *The Art Interchange* or *The Art Amateur*; the former published at 37 West 22d street, and the latter, 23 Union Square, New York City.

Question 37. *Male, aged 34, has right upper central incisor with mesial corner broken off, as shown by diagram. The lost portion has been restored with gold; but, owing to a close bite, the filling breaks off at enamel edge. How can I fix it to make a good job? The tooth is thin, soft and brittle, about two shades darker than left central, and has been for eight or ten years. It has the appearance of a dead tooth; has never been sore, and is not sensitive to drilling. What causes the discoloration?*

B. J.

A filling as described should depend on a well anchored screw, extending nearly flush with the mesio-coronal point of filling.

A thorough examination will undoubtedly reveal a dead pulp; this will simplify your trouble and account for discoloration. A screw extending from root canal will form firm anchorage, independent of frail enamel walls.

If the bite prevents sufficient thickness to cover screw thoroughly with filling, allow it to extend far as practicable; split end of screw into four or more points, and bend them down when the filling has reached a favorable stage for so doing. It is best to split screws before placing them in tooth, and the fixture should be—if of gold—thoroughly annealed previous to insertion. The split ends require but little length, unless you wish one of them to extend to point of filling. Porcelain tips are often preferable in these cases.

The following was received with answers for Question Department:

Question 38. DOCTOR:—*I hope the answers inclosed will do, and make no hard feeling with your brother dentists, as I am not Hoil. I wish, if you try any of the treatments, and put them in print in the only dental journal published—which I consider the ITEMS OF INTEREST is—the only one that is good, you will sign my name.*

Respectfully yours,

[ANSWER.]

DEAR FRIEND:—We wish to obtain practical experience of our friends for the mutual benefit of subscribers. We do not place ourselves on a pedestal, to judge who are worthy of professional acknowledgment, but wish our department to be friendly with those seeking the welfare of their fellow-beings, willing to give their experience to benefit others, feeling that one subscriber is as much entitled to benefits, derived from his journal, as another.

Your appreciation of the ITEMS shows good judgment, and you cannot be far from Hoil.

E. N. F.

Notices.

THE ORTHOPEDIC TREATMENT OF THE SADDLENOSE, with eighty-two illustrations. By MATTI AYRÄPÄÄ, M.D., Prof. of Dentistry in the University of Helsingfors, Finland. Published by O. W. Backman, 1892.

In the preface the author says dentistry has developed in many directions during the past decade, and its boundaries being naturally extended, it has come in contact with new scientific fields. One of these new border fields is the subject of the present volume.

The book contains one hundred and sixteen pages of readable German print; is devoted to the description and illustration of twenty cases from personal experience of the author with saddle-noses (depressed nose) and their individual treatment, besides giving the history of treatments from ancient times to the present. From an ethiological standpoint, the author maintains that "the cause of decay of the long ridge of the nose is oftenest caused by pathological processes (syphilis, lupus, noma, a wandering tooth, a new formation, etc.), sometimes to external violence, and also to inborn defects. To these must be added the gas and dust of the chemical and industrial establishments where the working people inhale these dangerous articles, producing disease of the nose." The author further says:

"Surgical treatments were undertaken centuries ago, when we find rhinoplastic operations in India. The reason for these operations having taken place so early may be explained by the fact that the habit of cutting off the nose as a punishment was prevalent."

He then describes the different methods of operation and medicines used by doctors, and their mistake in assuming that the outside form of the nasal skin is identical with the inner one. Their method was to have an artificial support for the skin covering the place of the former ridge. But while they all had their caoutchouc or metal pin apparatus for lifting the back of the nose attached to the immediately-adjointing affected parts, the author divided the pressure uniformly over the whole surface, and always gave the teeth to bear the burden of the pressure, where possible.

This method generally consists in preparing an artificial palate and a nasal apparatus, by means of which the natural form of the nose is gradually produced.

The book contains illustrations of every case treated by the author, and is worth a careful perusal. It actually opens the view

into a large field which is bound to come under the notice of dentists. The means employed in the treatment being those used in general dentistry, the cases will be confided to dental practitioners more than to others.

EDITOR ITEMS:—At the annual meeting of the State Dental Society held at Fremont, Nebraska, May 18th, 1892, the following officers were elected for the ensuing year: President, Dr. F. N. Conner, of Omaha; Vice-President, Dr. T. F. Skeede, of Seward; Recording Secretary, Dr. W. C. Davis, of Lincoln; Corresponding Secretary, Dr. D. P. Simms, of Lincoln; Treasurer, Dr. J. A. Dreffenbacher, of York. Board of Censors: Dr. H. W. Shriver, Omaha; Dr. H. J. Cole, Norfolk. Next meeting to be at Lincoln in May, 1893. *W. C. Davis, D.D.S., Recording Secretary.*

The twenty-third annual session of the Virginia State Dental Association will be held at the Rockbridge Alum Springs, beginning Tuesday, August 30th. All members of the profession are invited to attend, and will receive a cordial welcome.

W. L. Bacon, D.D.S.

Lexington, Va.

Chairman Executive Committee.

The Virginia State Board of Dental Examiners will meet at the place and date above named, at 9 o'clock A. M., to examine candidates to practice dentistry. Only graduates of reputable dental colleges are entitled to examination.

W. E. Nevis, Secretary.

The Colorado dentists are a live body. In some respects they are leading the dentists of the East. How quickly these new sections become civilized? And what better evidence of advanced and advancing civilization is there than to see dentists in the front of the march?

Says a Boston dentist: "Out of sheer curiosity I dropped in one evening recently to an auction sale of unclaimed express packages. Buyers can only guess what they are bidding on, for packages are not broken, so the whole thing is a regular lottery. Each buyer generally opens up his package as soon as he gets it. The man next to me opened a bundle he had paid fifty cents for. It was full of loose false teeth. He was disgusted, and I bought the lot for one dollar. Within forty-eight hours I had sold the lot, and got just eighty dollars for them.

For Our Patients.

STATURE OF VARIOUS GREAT MEN.

A book reviewer of the New York *Evening Post* has been examining a list of great men, drawn up some years ago without the slightest thought of their stature, and has looked up the heights of many of them as far as possible. This is the result :

"SHORT GREAT PERSONS.—Alexander, Archimedes (?), Aristotle, Francis Bacon, Beethoven (five feet six inches), A. Comte, Descartes, Epicurus (??), Erasmus, Faraday, Frederick the Great, Garrick, Jacob Grim, Harvey, Warren Hastings, Horace, Howard, Kant, Thoma a Kempis, Kepler, Locke, Louis XIV, Mendelssohn, Montesquieu, Mozart, Napoleon, Schopenhauer, Wagner, St. Francis Xavier—29.

"MIDDLE-SIZED GREAT PERSONS.—Attila, Burns (five feet ten inches), Calvin, Camoens, Cromwell (five feet ten inches), Dante, Jeanne Darc, George Eliot, John Hunter, Lagrange, Linnæus, Machiavelli, Mohammed, Clerk Maxwell, James Mill, Milton, Rachel, Adam Smith, Spinoza—15.

"TALL GREAT PERSONS.—Alcibiades, Aquinas, Balzac, Bismark, Boyle, Cæsar, Carlyle, Champollion, Charlemagne, Clive, Columbus, Constantine, Darwin, Durer, Dumas pere, Queen Elizabeth, Emerson, Fielding (over six feet), Gilbert, Goethe, Hawthorne, Helmholtz, Alexander von Humboldt, Lavoisier, Leonardo da Vinci, Lessing, Abraham Lincoln, J. S. Mill, Mirabeau, Moliere, Moltke, Peter the Great, Petrarch, Rumford, Schiller, Shelley (five feet eleven inches), Mrs. Siddons, Tennyson, Titian, Voltaire, Washington, Daniel Webster, Wellington, William the Silent—44."

The above would seem to show that great men, like ordinary men and idiots, are of all sizes.

PICTET'S FLUID.

Carbonic acid, or, as scientific purists will have it, carbonic anhydride, in the solid state, has now been employed for a good many years past in the production of intense cold ; but inasmuch as the snow-like substance (partly from its rapid evolution of vapor, partly owing to its flocculent physical condition) is not easy to bring into very close contact with a solid body, it is generally necessary to mix it with some fluid. Thus it is difficult—almost to impossibility—to

freeze mercury by merely surrounding it with solid carbonic acid. When, however, a little pure, dry ether is mixed with it, solidification of the metal takes place within a very few minutes. This, in fact, is a very favorite lecture table demonstration, and is accomplished without any trouble whatever. The comparative high boiling point of the latter, nevertheless, detracts largely from the effect, and hence the mixture in question is not so suitable for the production of very low temperatures as it might otherwise be.

It has recently been found by M. Raoul Pictet that when a mixture of the anhydrides of sulphurous and carbonic acids is liquefied by cold and pressure, the fluid thus obtained is more manageable than the carbonic acid-ether mixture just referred to. It produces by its rapid volatilization, an extremely low temperature, and, for purposes of this kind, is now known as "Pictet's fluid." Aided by a mechanical pressure of four to ten or twelve atmospheres—for most purposes one of about nine is amply sufficient—gaseous nitrous oxide is readily liquefied by the cold resulting from the evaporation of "Pictet's fluid." Then by the use of this liquid nitrous oxide a yet more intense cold is obtained, and, under pressure of from 120 to 200 atmospheres, hydrogen, oxygen, nitrogen, and common air are rendered fluid. Fluid air, the temperature of which is not much above 200°C ., is described as a blue liquid, and, on letting a little escape, a distinctly blue cloud is formed in the air, disappearing very quickly as the vapor diffuses in the air. —*Scientific American*.

SERIOUS EFFECTS OF AN ABSCESS.

Ten or more years ago, a lady called to have the roots of an inferior first molar removed. There was at the time an acute abscess at the apex of one of these roots. After removing one, she concluded that she would defer the extraction of the other. Ten days or two weeks later, I was asked to see her at her house. I found that she had continued to suffer pain, and that the abscess had not been arrested, but the pus had burrowed through the tissues of the neck and had seemed to be drawn by the poultices, which she had used constantly, lower and lower, till an opening had been made at a point opposite the arm-pit and nipple. It was with the greatest difficulty that she could open her mouth a quarter of an inch. I succeeded in prying her jaws apart, and removed the other root of the offending molar. After a few days' treatment, the discharge ceased, and the patient recovered. She was a strong, healthy woman at the beginning, but was much reduced in flesh and strength after this prolonged experience. —*Dr. Darby, in International*.

Current Notes.

Dr. F. M. Gillespie has extracted "a lower third molar with five separate, well developed roots."

In nearly everything we must go slowly, cautiously and thoughtfully, and learn by degrees. Often the wisest are the more prudent, the more inquiring, and the more ready to be taught, while the most ignorant are assuming, confident and positive. We cannot learn much without being teachable, and if we are susceptible of being taught we shall be forever learning. The ignoramus is generally over-confident of results, and jumps and plunges and strains himself to obtain a position, only to lose it by incompetency.

SLEEPING BY DEGREES.—Few of our readers, perhaps, are aware that the human body falls asleep by degrees. According to M. Cabinis, a French physiologist, the muscles of the legs and arms lose their power before those which support the head, and these last sooner than the muscles which sustain the back; and he illustrates this by the cases of persons who sleep on horseback, or while they are standing or walking. He conceives that the sense of sight sleeps first; then the sense of taste; next the sense of smell; next that of hearing, and lastly that of touch. He maintains, also, that the viscera fall asleep one after another, and sleep with different degrees of soundness.

Dr. GEORGE W. WARREN contributes an article to the *International* entitled, "The Physiognomical Significance of the Teeth," which is brimful of valuable suggestions regarding the construction of artificial dentures. "In making up the facial features," the doctor says, "the jaws and teeth play an important part, and to restore what is lost requires sufficient knowledge, not only of the physiological, but of the physiognomical conditions of the mouth," and that "artificial teeth should be so shaped and prepared as to harmonize with the facial requirements of each individual patient. the doctor thinks "the cutting edges of artificial teeth should be so ground as to give it a worn appearance." He advises "the smallest cut on the edge of each incisor and cuspid, as it will vary the expression greatly, and give character to the teeth according to the slope given and the amount removed, rendering it difficult to recognize them as the same set of teeth.

The value of rubbing against one another is illustrated by Dr. Mathews, as follows: About twenty-five years ago, when I had had a short tuition for pay from a very incompetent preceptor, I opened an office. I received a common printed invitation from the State Illinois Association to attend their meeting, and those who had instruments and were willing to operate could bring them and do so. I had a large case of instruments that I had paid \$135 for, that I was extremely proud of, and I thought of course nobody had any better, so I concluded I would take them and go. I had never seen another dentist's office except my preceptor's, but I thought if they wanted me to operate I would. I went first to M. S. Dean and introduced myself, and I got clapped down very short. I felt mean, I got very little, I shrank wonderfully, and when I got into the Society and saw dentists working at things I had never seen, I got so little and small that I never had courage to get up on the floor and say anything, but I learned a good deal.

The highest aim of the physician is to prolong life; the highest ambition of every dentist should be to preserve the teeth.

There are said to be no less than twelve manufactories of artificial teeth in the United States, which make 10,000,000 of these useful articles per annum.

We have new departures, old departures, in fact, all sorts of departures are now in vogue; the new arrogantly scoffing at the old, the old sneering at the new, and still both of them blending and combining in practice. Malleting and punching, annealed and unannealed gold, plastics, coppered and non coppered amalgams, yet, in spite of all, the teeth go to the dogs, or to the forceps, and artificial teeth are the hasty refuge of the many dentists. There is yet a great deal to learn about teeth and their preservation. The older we grow, and the more we learn from experience, the less we find we really do know. We occasionally see a young dentist just fledged from college, who really assumes to know it all.

D. V. Beacock.

C. K. Hisey, of Wellington, Ohio, says five grains of cocaine, used hypodermically in the gums around a tooth, suffices to extract it painlessly. "Pierce the needle deep into the gums anteriorly and posteriorly, by working back and forth with the point till the patient says there is no pain." We should be afraid of using so much cocaine, and should not enjoy being the patient "till there is no pain." We would advise Dr. Hisey to send to Dr. S. C.

Slade, Millville, N. J., for further instructions in preparing and using a local anesthetic.

Dr. Hisey's suggestion in using tin as an anchorage for gold in filling is excellent. "Use No. 40 tin foil, cut as you do No. 20 gold (does not make any difference if they are large); pack well into the grooves, and then drive No. 4 cohesive gold into it, using a round retaining-point plugger; tapping it well all over the tin till it is covered with the gold; then continue the same as for gold filling."

He says silax and powdered zinc, mixed with a little water and put in the joints of gum teeth, is the best thing he has used. He takes the blocks off just before molding; then he says it makes a hard cement joint, and never any discoloration.

We do believe some professional men think the best way to get notoriety is to say or do something that will make a sensation. However absurd it may be, however much out of place, or foreign from sober, well-attested truth, propriety and decorum, they are determined to get notoriety. They can't keep still, though they have nothing to say; they rush to the front, though they make themselves ridiculous. In our conventions, in their advertising and in our journals, they are bound to be heard, though they become a laughing stalk or get punished for their folly.

They remind us of a dear little boy at a kindergarten, named Richard. He was a very honest little boy, and highly respected by his parents; but, the other afternoon, when he came home, he acknowledged frankly to his mother that a punishment had been inflicted on him at the kindergarten.

"Why, what have you done?"

"Well, you see," he answered, "Johnny and I got tired of being good, and we made up our minds that we would just get our heads together and holler out the very naughtiest word we could think of, both together."

The mother was inexpressibly shocked. Johnny was another very nice and well-bred boy. But she managed to ask: "Well, what did you say?"

"We just screamed out 'bedbug!' as loud as we could."

WHEN A BRAVE MAN QUAILS.—"Patient—Who's that in the next room, doctor, making such a fearful how-de-do?"

"Dentist—That's General Samson, the hero of forty battles, having a little tooth pulled."

—*Harper's Bazaar.*

Editorial.

NO TIME.

Some persons, when urged to intellectual culture, complain they have no time. There are some whose physical pursuits are so pressing and continuous they hardly find a fragment of time for anything but their tread-mill labors. This is unfortunate. But most of those who have "no time" are of the very opposite character. They have "no time" but for trifles. They have plenty of time for everything but the useful. The prominent things they do are the useless, and these are done without purpose, reflection or order. Ask them, at the day's close, what they have done, and they will be puzzled to recount anything of honor to head or heart. The whole day has been whiffled away. But the intelligent, busy man, however busy he may be, has always time for the most important. Without being in confusion or haste, he goes through a great amount of work. By measuring accurately his time, sifting out trifles, and bringing the useful into order, he has time for everything that should be done, and everything is done in its time. Without fret or worry, he is master of the day.

Time hangs heavily on the hands of the lazy, and it is too short for those who do not show a masterly hand in disposing of it. But if what we do is reduced to system, and pursued with promptness, dispatch and intelligence, it is astonishing to see how much time we have, and how much we can do in our time.

We said lately something about the power and happiness and nobleness of conscious rectitude. But a man may have this and be only innocent. To have the joy and power and supreme satisfaction of a man among men, and especially of a man among the turmoil and strife and besetments of men, we must be more than innocent—we must so enter the fight of life as to be virtuous. We are not sure all know what this means. There are some who are like

the good child in the corner with its hands folded, that it may keep out of mischief; or like the boy who is kept within the inclosure of his own yard, lest he see some naughty boys. We heard once of one of these boys who was finally taken to town by his father, and when he came in sight of some gaily-dressed girls, called out: "Father, father! are those pretty things geese?"

Virtue is innocence tried. And no man knows the superiority of virtue till he feels the ecstasy of triumph over self and surrounding circumstances. Most men bind themselves by all manner of bonds that they be able to be innocent. The opportunity of being recreant must try us before we can know our strength, and all the bonds of creation cannot strengthen us against evil, though they may keep us from it. Strength comes from the trial of strength; growth comes from the continual pushing aside of obstructions and appropriating all the richness of our surroundings. We must burst the straight-jacket and put on loose clothes that will allow expansion. We must go among men as a man, and crowd our way to eminence by sheer push and perseverance. If men or animals or devils get in our way we must fight. If we get whipped, we must up and at it again. Shrinking from contact from the world may give us innocence, but will never give us virtue. Falling back when the pressure of the world's crowds, or the world's evils, or the world's responsibilities come, is cowardly. Virtue means triumph, and triumph means warfare; warfare not only against the world, but against ourselves.

Politeness costs but little, yet it goes a great ways in bringing popularity, honor and success. We are not speaking of a fawning, a cringing, or an effeminate disposition; nor would we have you an effusive flatterer, or a gingerly dude. But be affable and dignified, show refinement and intellectual and moral culture; be a gentleman in manners, habits and speech. Don't put it on as a cloak, some rent will be sure to show your hypocrisy; don't make it a merchandise, your customers will be sure to discover your sordid motives. It must be a condition, a habit of life, a reflection of what you are. A coarse, abrupt, brusk way is the outcry of the

weeds growing within. Root them up and the out-crop will disappear. Till the ground and cultivate beautiful flowers and luscious fruit, then the very fragrance will attract, and still more if you are free in dispensing them. Politeness must be the outward expression of the cheer and the warmth and the geniality within.

And yet, as simple and easy as politeness is to the simple, single-hearted man of suavity, it is awkwardly displayed by the uncouth and vulgar. How hard it is to simulate politeness!

Officiousness is the bane of some men. It is always offensive, and it is generally so intermeddling and assuming, so presumptuous and dictatorial, so positive and overbearing, every person in their presence who would have equal rights and privileges, or even equal freedom of opinion and action, seems crushed. They are pig- and big-headed, selfish and oligarchal.

This is especially so when our officious man is "professional." He is now monarch of all he surveys. He knows everything and you know nothing. He brooks no disputing, admits no doubting, and tolerates no intermeddling.

The more you yield to such a man the worse you make him. He needs and deserves a thorough snubbing, a severe humbling, an ignominious crushing. In this way you may make something of him, and he may make something of himself.

Our habitude, our professional standing, our office and its surroundings, are the outgrowth of our character. What are seen are the fingers pointing to what we are. We are all thus unwittingly exhibiting ourselves. No; not always that,—they show what we use of the stuff we are made of. Our surroundings are not a mere hap, they do not come by chance, we do not find them ready-made. They are largely the outgrowth of what we will them to be. They do not show what they might be nor what we might be, so much as what we prefer; and sometimes not what we prefer, so much as what

we allow. Many a man exhibits and revels in "hay, wood and stubble," who might build "of gold, silver and precious stones." Which we use determines what we are and what we appear. How many of us throw away as rubbish the best qualities of our nature, and spend life with what we should throw away. Because the former are the most weighty, and sink beneath the surface, we lightly estimate them, or are entirely ignorant of their existence, and our friends and business associates judge that we do not have them. Thus we pass through life unappreciated by ourselves and by others, and our true riches are buried with us. Some dip deep enough to know of what they are made. They bring to the surface "gold, silver and precious stones," and make of them a beautiful palace.

Are not some carrying malleting too far? Recently we heard a dentist say, "I seldom use a hand plugger." Such a dentist will seldom have a perfect filling; for it will not be uniformly condensed, unless all parts are in full view of the direct blows of the mallet. It is much more necessary to have an evenly condensed filling than one that is very hard; and as we have intimated, it is often impossible to condense perfectly into all portions of a cavity with the mallet only. Then, again, without alternating hand pressure with malleting, you will often have a rocking filling, though you may be able to reach all parts of the cavity with direct blows of the mallet, and the filling uniformly hard. If you cannot perceive it at the time, you will be convinced of this afterward by its leaking. A stain will show through the front wall, if it is thin; and finally a defect will appear; by and by, this will become brittle, and crumble; the "splendid" filling will drop out, or will have to be removed if it will not remove itself, and you will find foreign matter and decay all along down the wall of the filling. What does this mean? Every malleter who ignores hand pressure will do such defective work. The gold must be gently *crowded* toward the walls of the cavity in all directions to make a solid, preserving filling.

IS THERE INCREASED FLOW OF BLOOD IN INFLAMMATION.

In a foot note to an article in April *ITEMS*, we say: "The assumption that in inflammation there is an increased flow of blood, is incorrect. There is a decreased flow, a clogging, a retention of blood. This is what produces the swelling; and the pressure of the swelling on the nerves produces pain." Dr. W. H. H. Barker, of Miller, South Dakota, says: "If there is a decrease of flow of blood, will the editor of the *ITEMS* explain the physiological action that takes place, and tell us how the part involved is enlarged? The admission that there is swelling proves that there is more blood in the part. There are those who will still believe that in inflammation there must be an increased flow of blood."

It seems to us the doctor, himself, intimates the physiological cause and condition of inflammation when he says, "This enlargement must take place by accretion of matter of some kind." Yes, that is it. There is an "accretion of matter" caused by a disorganization of the blood. This accretion of matter is fibrine precipitated from the blood, and producing clot, and this clot clogs the circulation, and the force of the normal blood behind this causes the swelling. Anastomosis takes place by which the blood makes other channels, leaving the clogged, inflamed part measurably dormant. Unless this is relieved, death follows. This "accretion of matter," Dr. Barker speaks of, dies and is forced out of the system as pus.

It is an excellent discipline for a writer to feel he must say all he has to say in the fewest possible words. Many a writer, in this way, not only acquires an enviable terse style, but is sure to be read by the busy class, who, after all, are those we should the most seek to please and instruct. Some have the idea that many words must be used if we would be clearly understood. The foolishness and blindness and loop-holes of "the legal style" refutes this. It is often our superfluous words that cause us to be misunderstood. Generally a fact may be told in a few plain words, and we want facts more than any thing else.